Never Gymless

An Excuse-Free System For Total Fitness

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TABLE OF CONTENTS

Introduction	3
The Duel	5
Training Principles	15
Pulling Strength & Power	32
Pushing Strength & Power	58
Lower Body Strength & Power	90
Isometrics	110
A Powerful Core	127
Conditioning Is King	157
Nutrition	173
Program Design Quick Reference	194
Program Design	195
Frequently Asked Questions	224
Works Cited	230
Exercise List	232

INTRODUCTION

"The potential of the average person is like a huge ocean unsailed, a new continent unexplored, a world of possibilities waiting to be released and channeled toward some great good."
- Brian Tracy

Once upon a time I wrote a book dedicated to bodyweight exercise. The book was titled *The Underground Guide To Warrior Fitness.* Looking back, perhaps I went off the deep end with the title. I suppose that any *Underground Guide* may not be suitable for the mainstream world.

Regardless of the original title, it may seem odd that I have written another book primarily dedicated to bodyweight exercise.

Why did I create this program?

There are a few reasons. First, I continue to upgrade and modify my own beliefs regarding fitness attainment. I am constantly trying new things in a never-ending quest to improve my abilities and the abilities of those individuals I train. Rather than revising *The Underground Guide* for a fourth time, I wanted to start from scratch. I felt the need to create a true one-stop resource for training methods that require little or no equipment.

Perhaps the most important reason however began as a selfish pursuit. Before starting this book, I learned that my wife was pregnant with our first child. When we learned of her pregnancy, we were both ecstatic. There is nothing like starting a family with the person you love.

Unfortunately, my excitement was matched by a feeling of uncertainty and fear. I am not afraid of raising my child. The fear was related to my profession. I am a fitness junkie. Fitness has always been an integral part of my life. I love working hard in the gym. I love pushing through plateaus and achieving new goals.

As a trainer, being in top shape comes with the territory. It is not only expected, it is a requirement. I need to be in top condition to push the athletes. One of the most valuable teaching cues is real life demonstration. I will not **tell** someone how to perform a drill. I prefer to **show** the individual how to perform a drill. I like to challenge my athletes. Every workout becomes a challenge, a test, and a competition.

Living with this mentality requires that I uphold my body and mind. I am a firm believer in walking the walk. Far too many trainers do nothing but talk the talk. Talk is cheap.

As a trainer and coach, I often spend the greater part of my day exercising. Science is defined as the *state of knowing.* My scientific laboratory has always been the gym. The only way to know what *really* works is by trying new things. I am not a marketing guru or a business mastermind. I am a trainer and an athlete. I do not spend my time creating elaborate advertisements. I spend my energy in the gym.

Actions speak louder than words. I consider myself a human guinea pig. I am constantly putting myself through my own research projects. With hard work and careful planning, the body is much more capable than the average person will ever imagine. I am constantly amazed at my own body's ability to adapt and improve. I can do things now that I never dreamed of 10 years ago. I have attained much of my knowledge from blood, sweat, and tears. I've pushed my body to the extreme in a quest to find what works. If I say something works, it is not because I read about the technique. It means that I used the technique and was happy with the results.

After learning of my wife's pregnancy, I feared that I would not be able to continue with this drive and commitment. Suddenly, my child would become my priority. I cannot head to my *laboratory* for hours on end. There will be times when my wife is busy at work and I must watch after our child.

The driving force for this book was my need to create a program that would maximize results, while simultaneously maximizing convenience. I had to be able to train at home, without the need for bulky equipment. I needed to maintain intensity with a logical plan that would still apply my overall training philosophy. I could not change my philosophy because of the newborn. Rather, I needed a convenient method to achieve and maintain elite fitness.

I began training for this book before my wife gave birth. I used her pregnancy as a test run for the real thing. I wanted to have all of my ducks in a row before the baby arrived.

This book integrates the most effective use of bodyweight exercise and complementary equipment for complete fitness attainment. The workouts will be brief, but don't mistake brevity for a lack of intensity. My training philosophy is fueled by intensity. This belief will never change.

Sit back, fasten your seatbelts, and enjoy the ride...

THE DUEL

"Excellence is the gradual result of always striving to do better."
- Pat Riley

Before discussing the specifics of *this* program, I would like to offer my thoughts regarding a commonly debated topic, namely the effectiveness of bodyweight exercise in comparison to weight training. I am sure that you know someone who swears by one or the other. It seems as though today's athletes must choose between bodyweight exercise and weight lifting. Those who favor one style of training typically discredit the other.

For example, someone from the bodyweight exercise group will often make statements such as:

"Weight training is dangerous, and will make a martial artist slow and stiff."

The weight training group typically counters with their own opinions. One statement that you have likely heard includes:

"You cannot get strong with bodyweight exercise."

Ignorant comments such as these are unfortunate, as they do nothing to advance the condition of fellow athletes.

Bodyweight exercise is effective. This does not mean that other training styles are any less effective. Regardless of the modality, each tool can be effective if used correctly. Bodyweight exercise just happens to be the most convenient method, as you can perform these workouts anywhere, without the need for expensive equipment.

Unfortunately, not everyone recognizes the convenience and effectiveness of bodyweight exercise. While writing this book, I turned to the Internet to learn what others had to say about this topic. I scoured through hundreds of fitness message boards. I could have written a book dedicated to the bodyweight exercise vs. weight training debate. All that I would have needed to do was provide quotes from the various message boards regarding each side of the argument.

Many believe weight lifting is dangerous. Others believe bodyweight exercise cannot produce real strength. There are those who believe bodyweight exercise

is boring, limited to pushups and squats, while others believe weight training is inconvenient due to storage requirements. There are those who believe bodyweight exercise is only for small gymnasts. Many believe weight training is useless for combat athletes, while others believe it is necessary to develop punching power. The list of contradictions is endless.

Many athletes stumble across message boards loaded with these conflicting viewpoints. They end up completely befuddled about what constitutes a proper training program. I receive thousands of emails each year about this subject.

Common questions include:

- *Can you gain strength with bodyweight exercise?*
- *Should a martial artist limit his training arsenal to bodyweight exercise, or does he need to lift weights?*
- *Can you compete at the elite level without lifting weights?*

Perhaps this discussion is best summarized with the quote below, courtesy of actor Clint Eastwood in his role as Dirty Harry.

"Opinions are like assholes, everyone has got one."

To add to the problem, many of the opinions regarding this subject come from individuals who have only lived on one side of the fence. How can someone who has never lifted weights claim they are inferior to bodyweight methods? How can someone whose experience with bodyweight exercise is limited to a few sets of pushups claim this style of training is inferior to weight lifting?

Would you hire a financial advisor who has never invested a dollar in the market? Would you hire a nutritionist who was overweight?

If not, why would you listen to someone who has never engaged in the activity that he is arguing for or against?

Been There, Done That

Age 4, practicing combinations with my grandfather

I was introduced to bodyweight exercise as a youngster. My father challenged me with daily pushup contests. Bodyweight work remained part of my life as I became active in sporting events such as boxing.

Bodyweight exercise was a staple in the boxing community. Fighters could always be found working through floor drills and conditioning routines. Equipment was expensive, and space was limited. Bodyweight exercise delivered the results, without the need for equipment.

I can say firsthand that bodyweight exercise is as useful as any other training style. In many cases, bodyweight exercise is superior. I am not here however to tell you that bodyweight exercise is the panacea to strength and conditioning. No such thing exists in this world. While certain training methods are *better* than others, there are no shortcuts or quick fixes involved in elite fitness attainment.

I have used just about every piece of equipment that you can imagine. Some of my favorites include dumbbells, medicine balls, resistance bands, and sandbags. Based on my "i*n the trenches"* experience, I have concluded that the equipment you use is **not** the most important part of training. Resistance is resistance, whether it comes from bodyweight, sandbags, or iron. Almost any piece of equipment can be applied to a successful program.

Regardless of the equipment, important training principles must be applied to ensure successful program design. One can conform to such principles with almost any training modality. For example, if your goal is maximal strength, you can choose challenging bodyweight movements or isometrics. You could also lift heavy weights, or use high-tension resistance bands. Each of these methods will allow you to achieve this goal.

No matter what equipment you choose, you must begin by identifying a specific training objective, and then determine a strategy that will allow you to achieve this goal.

Forget The Shoes

In 1985, Hall of Fame basketball player Michael Jordan teamed with Nike to release the Air Jordan basketball shoes. One of the famous advertising slogans devised for this product was the classic line, *"It's gotta be the shoes."*

The message of the slogan was that if you wore the shoes, results on the basketball court would follow. When an athlete excelled in a game, you would often hear this slogan uttered in regards to the amazing performance.

Unfortunately, this slogan does not apply to training. Neither weight lifting nor bodyweight exercise guarantees results. Rather, you must conform to proven training methods and principles. The goal of this program is to use bodyweight exercise and complementary training tools to achieve and maintain elite physical performance.

I began testing the *Never Gymless* program in September 2005. For the next 7 months, I used nothing but the exercises contained within this book. I did this to prove a point. You can achieve elite fitness without elaborate training tools.

For those who lack access to fully equipped gyms, you have nothing to worry about. You can apply the ideas from this program to maximize your physical performance.

To those familiar with my work, it may appear that I am contradicting myself. After all, just last year, I released a program *(Infinite Intensity)* that integrated the use of dumbbells, bodyweight exercise, sandbags, and more. You may be wondering why I have returned to bodyweight exercise. Actually, I never left bodyweight training.

As mentioned previously, I still believe that tools such as dumbbells and sandbags are effective. I do however recognize that many aspiring athletes do not have access to this equipment. You may not have room to store or use these tools. You also may not want to buy or build these tools. Failure to use this equipment does not equate to a fitness death sentence. This book will show you equally effective methods that do not require these tools. There is nothing better than self-sufficiency. Bodyweight exercise allows you to train anywhere, as you become your own gym.

Whether you use bodyweight exercise, weights, or sandbags, each modality is simply a means to an *end.* The *end* is the development of a complete athlete. There have been world champion fighters who swore by bodyweight exercise,

while others thrived in the weight room. What does this tell us? The obvious answer is that several roads can lead towards the development of an elite athlete. With a regular dose of hard work and a properly designed program, you can use almost any modality to enhance your physical preparation. This book will outline a bodyweight driven path.

In addition to the convenience factor, bodyweight exercise is useful when working with a group. If I am training several athletes at once, it is much easier to put everyone through a bodyweight circuit. It would be impossible to train 10 athletes with a circuit that requires a different machine for every body part. Even free weights can become cumbersome. Different athletes will need different loads.

A group of 10 athletes would need a fully equipped gymnasium for a conditioning workout. With bodyweight exercise, I can train the entire group anywhere, with no need for equipment. The simplicity factor is just one reason why bodyweight exercise has thrived in martial arts dojos, wrestling gyms, and boxing gyms.

Athletes can also benefit from these workouts outside the gym. It is easy to supplement your sport training with home-based routines that do not require equipment. If you are a fighter, you can now perform complete strength and conditioning workouts at home.

The risk of injury also tends to be less with bodyweight exercise. Your body was designed for movement. You are not likely to injure your body by using it in the manner that it was designed for. Although I strongly believe that weight training is a **safe** pursuit, I feel more comfortable assigning bodyweight routines to youngsters and less experienced athletes. Many athletes who conduct their own strength training workouts may be performing the lifts incorrectly, which could compromise results and increase the risk of injury. The learning curve required for bodyweight exercise is minimal. Despite what some gurus may want you to believe, exercises such as pushups require little if any instruction. You can get yourself up to speed without a top secret training certification.

If It Is So Damn Good...

Why don't more people engage in bodyweight exercise routines?

This is an excellent question, which I must address. There are many reasons why bodyweight exercise has not expanded to mainstream communities. Aside from military personnel and combat athletes, most fitness enthusiasts have little experience with bodyweight exercise.

This may come as a surprise based on the effectiveness and convenience of this modality. Unfortunately, the driving force behind much of our society is greed for the almighty dollar, not your physical well-being. This sense of greed runs rampant in the fitness industry. In the United States alone, fitness and recreation centers generate over $15 billion in annual revenue. In addition to this revenue, hundreds of manufacturers supply these fitness centers with expensive training equipment. Many machines cost several thousand dollars each. When you consider that there are over 25,000 fitness and recreation centers in the USA, you realize just how much money has been invested in this market.

Regardless of what you want to believe, the driving force behind these fitness establishments is their quest to generate more and more income. Your individual success is not their priority. Money comes first. While they want you to succeed, the real reason is so you can ultimately become dependent on their equipment and services. You will therefore continue to invest your income in monthly membership fees.

Why would this industry support bodyweight exercise? It simply does not make sense for business. There is no money to be made if you can exercise at home without equipment. Your participation in bodyweight exercise will hurt both the individual gyms, as well as the equipment manufacturers.

To add to the problem, large players in the fitness industry often sponsor research projects to create favorable opinions and *scientific proof* that supports the use of their equipment. Much of this so-called research is paid for with the results predetermined. Suddenly, fitness magazines and journals begin publishing data claiming certain tools and supplements have been *"proven"* to produce undeniable results.

For obvious reasons, bodyweight exercise is left out of the mix. What major equipment supplier has a vested interest in what you can do with your body?

None!

So, when John wants to begin an exercise routine, he heads to his local newsstand to read the latest fitness magazines. Within these magazines, he will usually find advertisements for new *state of the art* training equipment. High profile bodybuilders will tell their so-called *training secrets,* often sporting

sponsored apparel, demonstrating exercises on equipment that also comes from paid supporters. Eventually, John joins his local gym and spends the greater part of his training time sitting in a carefully calibrated exercise machine.

No one ever tells John that he could achieve much more favorable results with a bodyweight exercise routine. He falls into the fitness industry's web of deceit. Each year he spends a few hundred dollars on his gym membership.

Meanwhile, across town, the local boxing club and high school wrestling team work through brutal bodyweight exercise routines. The athletes developed in these low-tech gyms dominate John in strength, conditioning, and all around athletic abilities.

The machine byproducts pumped out of most commercial gyms lack the physical qualities needed to excel in today's sporting world. Machine training is limited, and largely useless for competitive athletes. Machines isolate specific muscles, with movements limited to fixed two-dimensional paths. These machines lack real world purpose, particularly when you consider that our world is three-dimensional. Regular machine use can actually interfere with the development of three-dimensional neuromuscular patterns required in all athletic activities (Siff, 2003a).

Think about it, there is a machine for virtually every muscle group. Conforming to this logic, you will train each muscle group individually. Training the body as one unit does not exist in this context. Rather, individual muscle groups are trained separately. This *isolation* mentality provides little if any benefits to the athlete who must train for improved performance. Your body is one unit, not a bunch of small pieces. Each muscle works in tandem to produce three-dimensional movement. Athletic events involve three planes of motion (sagittal, frontal, and transverse planes). Machine training will not prepare you to perform in this real-world environment. Stay away from machines. If you train at a commercial gym, stick with free weights and bodyweight exercise.

Internal Strife

Unfortunately, certain attitudes and actions from within the bodyweight exercise community have damaged the credibility and widespread adoption of these methods. I've pointed the finger at the fitness industry, but I must also place blame on some *bad apples* within the bodyweight exercise world. This may seem ironic, but many bodyweight diehands actually deter others from engaging in this form of training. Let's examine a few problems with the current state of bodyweight exercise.

The Cult Following **-** Most bodyweight exercisers are open to various training methods. These men and women simply prefer bodyweight exercise. I myself fall into this category. Unfortunately, certain bodyweight supporters condemn and despise all other training methods. These individuals have essentially formed *mini-cults.* In their eyes, if it is not bodyweight related, it is not useful. This one-sided mindset does nothing to advance bodyweight exercise in the mainstream world. The outsiders looking in see these individuals as radicals who are narrow minded, and unwilling to accept the success that many athletes have achieved with alternative methods. Once again, it is important to remember that several means lead to an *end.* Bodyweight exercise is just one of many options.

Too Good For Science **-** Many bodyweight exercise proponents have developed their training philosophies from an old school mentality. In their eyes, as long as you are working hard, there is no need for sports science. If a program stops producing results, it must mean the individual is not working hard enough. More and more work is the recommended prescription. While hard work is clearly a positive attribute, *hard work* does not always equate to *good work.* For example, running a 26.2 mile marathon is a difficult task. Just because the work is hard, does not mean that it is useful for most athletes. Such an event is the last thing that a power athlete, such as a 100 meter sprinter, should engage in.

Unfortunately, certain *bodyweight gurus* fail to recognize and apply important concepts such as gradual progression, restoration, and the cycling of workout intensity through various forms of periodization. Rather than conforming to these principles through bodyweight exercise, science is frowned on, often with condescending comments. These comments are nothing more than a cop out for failing to understand the complexities of modern research.

Bodyweight exercise is a useful modality, but this does not mean that it is too good for science. Important principles should be followed, regardless of the training modality. Just because you use bodyweight methods does not mean you should bypass all scientific literature related to training and performance enhancement.

For example, a common flaw in the bodyweight world is the prescription of a limited number of exercises. Many bodyweight enthusiasts recommend nothing more than pushups and bodyweight squats. As your strength improves, you are instructed to perform more and more repetitions. The importance of variety is overlooked, as many individuals limit themselves to a handful of exercises.

Such a plan ignores the biological law of accommodation. In short, the body's response to a constant stimulus decreases over time (Zatsiorsky, 1995). If you

train with the same movements, performance gains will gradually decrease. Based on this information, it is important to cycle through different exercises to keep the body guessing. Do not become transfixed on one movement. Train for complete, ongoing development, not habitual use of a limited number of exercises.

Putting All of the Eggs Into One Basket - Another common shortfall of many bodyweight exercise programs is the lack of variety with training objectives. There are those who swear by ultra-high repetition exercise, while others focus their attention towards more strenuous rep-for-rep movements. One athlete may boast of his ability to perform 500 consecutive bodyweight squats, while another athlete believes such high repetitions are a waste of time, and only a display of endurance. This individual instead focuses on challenging exercises like one-arm pushups and one-arm chin-ups.

Who is the superior athlete?

The first man displays tremendous strength endurance, while the second man displays tremendous maximal strength. These strength qualities are unique. There is no reason to focus all of your attention towards one objective.

I once trained an individual who routinely performed sets of several hundred bodyweight squats, and could knock off over 100 consecutive pushups. Unfortunately, his tremendous strength endurance did not carry over to other athletic pursuits. The man lacked speed and power. His anaerobic energy systems were also deficient. A few 400 meter intervals on the track would leave him gasping for air. The first time we ran on the track, he recycled his breakfast after the third interval. Clearly, the development of one quality (strength endurance via high reps) does not ensure athletic success.

When I began training this man, we dropped the high reps, as he already possessed significant strength endurance. We started working with more speed and power related activities such as hill sprints, interval training, heavy bag punching, and various upper and lower body plyometrics. Slowly, the man developed the speed and power necessary for the combat sporting world.

At the other end of the spectrum, I've seen rock climbers who could perform one-arm chin-ups with ease. Such strength is clearly impressive, but does not guarantee success in other sporting events. One-arm chin-up strength means little for speed strength, explosive strength, and anaerobic endurance.

As you will read in the next chapter, there are several forms of strength. Bodyweight exercise can develop each strength quality. We will not make the

mistake of focusing solely on one attribute. A complete athlete needs a complete plan. We will target maximal strength, speed strength, explosive strength, strength endurance, and more.

Exaggerated Claims - Perhaps the greatest problem with bodyweight exercise is the manipulation that has occurred within the market. Many fitness fads have come and gone in recent years. Once a trend gains popularity, it is only a matter of time before the niche is abused. Bodyweight exercise has been unfortunately hyped to create God-like powers to those individuals who perform the movements.

Let's get one thing straight. There is nothing magical about bodyweight exercise. You will not develop the power of ancient gladiators by performing bodyweight routines. You will not become a superhuman stud by performing pushups every morning. Unfortunately, you will need to bust your ass to foster improvements. There are no shortcuts to elite fitness. Whatever modality you choose, you'd better be prepared to put in the work. If you apply hard work, consistency, and perseverance to your training plan, you will achieve results, regardless of the tools you choose.

TRAINING PRINCIPLES

"Knowledge is power." - Francis Bacon

The objective of any training routine is to produce physical improvements. Regardless of your goals, your likelihood for success depends largely on the training routine that you follow. We train to induce specific adaptations within the body. For example, when performing a pushup, you will adapt to the load (your bodyweight) by gaining the strength necessary to push yourself up from the ground. You will improve in strength by adapting to the exercise. When the exercise no longer presents a challenge, the adaptations will become less and less.

One of the most fundamental training principles is the SAID principle. The body will produce Specific Adaptation to Imposed Demands (SAID). In short, you will apply a stimulus to the body (exercise) which causes an adaptation (physical improvement) to occur. The adaptation is simply a response to the stress of the exercise. For the adaptation to occur, the training load must be above normal or be new to the individual (Zatsiorsky, 1995). When the exercise no longer presents a challenge, you will not adapt with positive improvements. When you become accustomed to a particular exercise, it is time for a change. This simple philosophy is essential for continuous improvement. Unfortunately, many bodyweight exercisers do not conform to this logic, limiting themselves to a few sets of pushups and squats. We will not make this mistake. When the exercise no longer contributes to improved performance, it is time to move on.

Let's now look at three principles that we will apply to this program. Although we will not limit ourselves to this brief list, these principles will serve as a simple, yet valuable reminder as you embark on the program.

I. Variety

If you are a beginner to exercise or have been out of action for a long time, you will notice rapid improvements in the first few months. Almost any workout program will produce results for a beginner. After all, the novice is not accustomed to using his body to overcome resistance. He will therefore adapt quickly to a regular training program. After a few months however, it is common for beginners to become stuck in a rut. Following the initial improvements, results begin to plateau and may eventually decline.

A training system is not judged by its ability to develop short-term success. A well-developed program should deliver results indefinitely. If you limit yourself to a handful of movements, this will not be possible.

As improvements plateau and potentially decline, you will also deal with another problem. I can summarize this problem with one word, **boredom!**

Let's face it, working with the same exercises for too long can become downright boring. Working out should not resemble a miserable job. You should welcome new challenges, pushing yourself to new goals. The mind must remain fresh, excited, and motivated. To make this happen, exercise selection, volume, and intensity must vary over time.

On the flip side, you must work with an exercise long enough to allow for improvement. For example, suppose you lift a heavy weight over your head. Simply lifting the weight one time will not cause an adaptation. The stress from one lift is insignificant. It will not be enough to cause an increase in strength. You must work with an exercise long enough to foster improvements. If you switch to a new set of exercises every week, you will never improve at the specific movements. The stress presented from each exercise will not be enough to produce a positive adaptation.

To produce physical improvements (ex. increased strength), you must use an exercise long enough to reap the benefits of the work. This is particularly true when working on a new movement. Throughout this manual, you will find several challenging bodyweight exercises. You cannot expect to master these movements on your first try. It may take several months to develop the ability to perform certain exercises.

In most cases, you should incorporate *some* variety into your routine every 3 to 6 weeks. You do not need to ditch everything and start over, rather you will make smaller scale changes. For example, you could perform advanced variations of certain exercises, reduce rest between sets, add resistance (ex. wear a weighted vest), and begin working with new (different) exercises.

As the training effect of one exercise decreases, we must introduce more effective exercises to continue a positive training response. By continually challenging ourselves with new movements, we will promote long term development.

To summarize, you must work with an exercise long enough to cause improvements. When improvements begin to decline or the routine becomes mentally tiring, it is time for a change. Variety is the spice of life.

II. Long Term Development

As stated earlier, novice trainees will respond well to almost any exercise program. Any newbie who trades a lifestyle of inactivity with a lifestyle of regular exercise will experience rapid improvements. Results will continue for several weeks, possibly even several months.

Eventually however, the rate of improvement will decline. You cannot continue to train the same way and expect long term development. It is essential that we cycle different training methods. It is equally important that we make time for periods of rest and restoration.

First, let's begin by reviewing one common training principle, the overload principle. We can then use a modified version of this concept to aid in our goal of long term development.

The Overload Principle states that to improve in strength or endurance, you must apply a greater amount of resistance than you are accustomed to. Essentially, you must place an overload on your system for positive change to occur. For example, performing one pushup is not enough *overload* to cause your body to adapt to the exercise via increases in strength and endurance.

Although the overload concept works well in theory, many athletes abuse this principle, which hinders performance, rather than leading to improvements. For example, the overload principle states that we must train with more resistance than we are accustomed to in daily activities. By training with a greater amount of resistance, we will adapt with strength improvements. Unfortunately, we cannot continue to overload the system with more and more resistance. If you continually increase resistance, you will eventually plateau, and often come crashing down. The body cannot continue to increase from workout to workout without making time for rest and recovery.

The body does not grow stronger *during* the workout. You will actually lose strength as the workout progresses. For example, suppose you can perform 10 chin-ups as your one set maximum. If you were to perform multiple sets of 10 during one workout, you will eventually become unable to achieve this number. You may hit 10 during your first few sets, before you can only muster 9, then 8, and then 7 reps. You will lose strength as fatigue sets in. Strength gains occur in between workouts when the body is given time for rest, recovery, and growth.

The overload principle would be much more useful if it followed a fluctuating model. The direction of loading would be positive in the long run, but would include periods of reduced loading. A period of lighter work is essential for recovery and growth from the previously performed intense training sessions. Failure to make time for recovery will prevent you from exploiting the benefits of the intense loading. The body must have time to rest so it can super-compensate from the prior (intense) work.

It is a common practice to perform three to four weeks of intense work, followed by one week of reduced loading and restoration (Siff, 2003a).

The long term training curve will therefore resemble a wave-like pattern, where intensity rises in the long run, but is cycled with periods of reduced intensity in the short term.

Periods of intense training are cycled with periods of reduced loading

Many athletes lack the patience necessary to follow such a model. They want to lift heavier and heavier during each training session. Unfortunately, this is not possible. If it were, the same individuals would break new records over and over again. This is not the case. You cannot continue to improve indefinitely without making time for reduced loading, recovery, and restoration.

Although we must make time for recovery, we must also make time for intensity! Do not view this discussion as an excuse to slack off during your workouts. Yes, we need to make time for recovery, but we need to do something that warrants the **need for recovery.** If you never train with intensity, you will not need recovery and restoration.

We live in a world where the average gym member spends most of his *gym time* at the water fountain or talking on his cell phone between sets. No one wants to work for anything. If I created a magic potion that would increase strength and endurance without exercise, I would make millions of dollars. Most people seek an easy road to the top.

Unfortunately, the diet pills that fill store shelves do not work. If they did, our society would not be facing the obesity epidemic that currently exists. The Surgeon General estimates that 300,000 deaths a year are attributed to obesity.

Clearly, our world is in need of more frequent and more intense exercise.

We have reached a point where obesity is considered a disease, often treated with prescription pills and surgery. The FDA has approved several prescription drugs designed to combat obesity. Why don't doctors prescribe exercise instead of magic pills? As our world grows fatter, the pharmaceutical companies will continue to make more and more money from drug sales. Society has truly reached a pathetic state.

As an athlete, it is easy to view the obesity epidemic with thoughts such as *"It is not my problem."* While it may not seem like your problem, it is actually becoming everyone's problem. Obesity related diseases are overwhelming our healthcare system. Associated health problems include type II diabetes, heart disease, high blood pressure, arthritis, and stroke. Eighty percent of the cases of type II diabetes are linked to obesity. Type II diabetes costs our healthcare system over $63 billion a year. If we add the healthcare costs of other obesity related diseases (ex. osteoporosis, hypertension, heart disease), we will quickly approach $100 billion. Obesity **is** our problem!

Consider the following question. How many physically fit people do you interact with regularly? This could include neighbors, friends, family members, people you work with, or just someone you see at the grocery store. Most people can only think of a few names. Now, consider this question. How many overweight people can you list from your family, friends, co-workers, and neighbors? I am guessing that we all interact with more people from the second category.

When did physical fitness become such a rarity?

It is time to stop feeling bad for people who walk around overweight. No one forces me, you, or anyone else to exercise. I view exercise as an investment in myself. I am able to function freely in this world, capable of using the body that I have been blessed with. Shoving food down your mouth and sitting on your ass all day and night is disrespectful to your body. The body should be respected, maintained, and improved.

Contrary to what some obese individuals like to say, exercise DOES work. It may not be easy, and it may not happen overnight, but it does work. Just as you

did not gain weight overnight, you will not lose weight overnight. It takes time, consistency, and hard work.

To summarize this rant, we will include a regular dose of intensity in our workouts. We will also make time for rest and recovery following such intense periods. By alternating periods of intense work with time dedicated to rest and recovery, we will set ourselves up for long term, uninterrupted development.

Another critical element to long term success involves consistency with your training plan. Far too many athletes take extended breaks from training. Do not fall into this trap. Muscles can lose up to 30 percent of their strength after a seven-day period of total rest (Verkhoshansky, 1985). You work too hard to take two steps backwards for every step forward.

Do not confuse the previously discussed *back-off week* with a week of sitting on your ass. Periods of inactivity lead to de-adaptation. You essentially lose the physical qualities that you worked so hard to achieve. When you return to action, you must start back from scratch.

This program will eliminate any excuses regarding missed workouts. You do not need a world-class training facility to achieve a world-class training session. You can convert any room in your home into a hardcore training facility.

We will ensure long term development by training with intensity throughout the year, with occasional *back-off periods* dedicated to recovery and restoration.

III. Purpose Driven Training

There should be a reason associated with every action. For example, if I throw a punch at your face, you should move or block the strike. You react in this manner to prevent the pain associated with being punched in the face. Unfortunately, the concept of performing actions for specific reasons does not always exist in the sporting world. Many athletes simply *go through the motions*, performing workouts and exercises for no apparent reason.

You must have a specific reason for every exercise and routine that you perform. You should be able to relate each part of your routine to a specific objective that you are working to achieve.

For example, a marathon runner needs tremendous endurance to compete in a 26.2 mile race. The marathon runner should therefore engage in a training program that is specific to the fitness profile of his particular event. It would not make sense for the marathoner to spend most of his time training with 100 meter sprints. The physical attributes required to excel in a 100 meter race are much different from those required to excel in a marathon.

As you work through a routine, you should always have an answer to the following question.

"Why are you doing that?"

The answer to this question will typically fall into one of two categories. The first category is simple, you enjoy the activity. If you enjoy a particular exercise, you will continue to use it. If you despise an exercise, it is only a matter of time before you scratch the movement from your training arsenal.

Using myself as an example, I enjoy hitting the heavy bag. As a coach, I am no longer training for a specific competition. I hit the heavy bag simply because I enjoy the activity. In my eyes, pounding on the heavy bag is much more enjoyable than any other conditioning exercise.

Alternatively, I do not enjoy swimming. Several years ago, I attended a training camp with former Olympian boxer Lawrence Clay-bey. We trained at the boxing gym during the day, and headed to the pool in the evening. The swimming workouts were intense and clearly effective. After leaving the camp, I walked away with a greater appreciation for swimming, but I also realized that swimming would never become one of my primary conditioning methods. I dislike the activity, so it does not make sense to focus my efforts in this direction.

The second acceptable reason for engaging in an activity is related to your training goals. Each sport has a unique fitness profile. The profile consists of those qualities required to succeed in the activity. For example, the fitness profile of a marathon runner is much different from that of a competitive powerlifter. The marathon runner needs unprecedented levels of endurance, while the powerlifter thrives on maximal strength.

As an athlete, your workouts should reflect the fitness profile of your specific event. A combat athlete has a diverse fitness profile. A fighter must possess a unique blend of speed, power, agility, strength, endurance, and skill. His fitness

profile will be much more complex than that of a powerlifter or marathon runner.

The fitness profile can also vary for specific competitions. Consider a world title contender who is fighting for his first championship. To have earned the title fight, the athlete has certainly trained properly. His undefeated record is all the proof that we need.

But what happens when the contender must fight a left-handed boxer? If the contender has not fought many southpaws, he will need to change his training routine to reflect the upcoming competition. Rather than sparring with conventional (right-handed) boxers, he will need to hire several southpaw (left-handed) sparring partners.

If he were to spend all of his time boxing with right-handed fighters, how would he answer the question of why are you doing that? He would not have an answer, considering the upcoming bout with a southpaw.

Unfortunately, many mainstream workout programs pump out cookie-cutter methods, which poorly address the question of *why are you doing that.* The creators of these programs often dodge this question. These trainers thrive on blind followers, rather than educated athletes who seek reasons for the prescription of certain training methods.

Training For Specific Qualities

Thus far, we understand the importance of variety and the body's need for restoration and recovery. We will train for long term development, focusing on routines that enhance specific qualities. If an exercise no longer contributes to our development, we will not waste our time or energy working with the movement.

However, before we can target specific qualities, we must gain an understanding of *what* exactly we are training to develop. On the pages that follow, I will review several strength concepts, and then identify mistakes that many athletes make when training to develop these attributes.

First, it is useful to examine the basic definition of strength. Strength is our ability to overcome or counteract external resistance through muscular action (Zatsiorsky, 1995). This definition serves as a valuable starting point, but does

not address the many *kinds* of strength. We must focus on specific strength qualities, as each sporting event requires a unique blend. As an athlete and coach, I focus on the combat sporting world. Combat athletes require a complex blend of several strength qualities.

Before discussing this unique blend, let's start with a quick review of several strength definitions. After reading this section, it will become clear that the traditional definition of a *strong athlete* is actually quite vague.

Strength capabilities are typically categorized into one of four types, namely absolute strength, explosive strength, speed strength, and strength endurance (Sift 2003a).

Absolute strength is the amount of force that one can exert under involuntary muscle stimulation (ex. electrical stimulation).

Since most of us will never undergo involuntary muscle stimulation, I prefer to focus on maximal strength, listed next.

Maximal Strength is the amount of force that one can exert under voluntary effort. This strength quality is seen during a powerlifting competition. Each athlete tries to lift the greatest amount of weight.

Examples of maximal strength training include heavy weight lifting, high-tension isometrics, and strenuous bodyweight movements (ex. one-arm chin-ups). Maximal strength training leads to powerful neural adaptations, improving both intramuscular and intermuscular coordination (Zatsiorsky, 1995).

Explosive Strength is the ability to express significant tension in minimal time. Explosive strength is considered the strength quality most characteristic of athletic activities (Verkhoshansky, 1977).

Explosive strength is developed with fast, powerful muscle actions. You must train fast to be fast. A depth plyometric pushup is an excellent example of an explosive strength exercise. Several variations are illustrated in a later chapter. These techniques will increase the central nervous system's rate of response. You will develop the ability to display significant tension in minimal time.

Speed Strength is the ability to quickly execute an unloaded movement or a movement against a relatively small external resistance.

When training for speed strength, it is often useful to focus your efforts around your specific sporting event. For example, a boxer could punch the heavy bag at top speed to develop this strength quality. Exercises with heavy weights are not adequate when training to improve speed of movement (Siff, 2003a). Speed strength is developed without resistance, or with movements against small resistance (ex. 20 percent of the 1 rep max). These techniques are clearly effective, as researchers have witnessed increases in speed as high as 146 percent of the initial level (Verkhoshansky, 1977).

Speed strength can also be developed by exploiting the after-effect phenomenon of high-tension strength work. A strength movement is performed first to activate the nervous system. Following the strength movement, you would immediately continue with a high-speed exercise. The strength exercise renders a positive after-effect in the central nervous system. The CNS is *triggered,* which increases the effectiveness of subsequent work (Siff, 2003a). For example, a one-arm pushup could be performed as a bodyweight strength exercise. Immediately following this exercise, you could launch a small medicine ball (ex. 3 pounds) to exploit the after-effect of the one-arm pushup. The medicine ball throw becomes more effective because of this powerful *after-effect.*

A static-dynamic combination can also be used to improve speed strength. The static-dynamic protocol integrates isometrics (discussed in a later chapter) with dynamic work. For example, an isometric position would be maintained briefly, before continuing with an explosive exercise such as throwing a medicine ball. The dynamic exercise becomes more effective when performed immediately after the static hold *(similar to the after-effect of high-tension strength work).*

Strength Endurance is the ability to effectively maintain muscular functioning under work conditions of long duration. A kickboxer who maintains high punch and kick output displays tremendous strength endurance.

Strength endurance is vital to combat athletes. Strength is useless if you lack the ability to apply it throughout the contest. High repetition work is ideal for the development of strength endurance. As your endurance improves, you can intensify the routine by increasing the number of repetitions, reducing rest between sets, or adding weight to the movement.

Sport specific activities can also develop strength endurance. For example, hitting the heavy bag for several rounds will develop the strength endurance required by a boxer or kickboxer.

Unfortunately, many athletes ignore the importance of strength endurance. It is common for today's athletes to neglect strength endurance, instead focusing on

futile pursuits such as bench press ability in the weight room. When speaking of strength endurance, it is common to hear the following phrase uttered, *"You can't get strong with high reps."*

The athletes who utter these words live under the impression that heavy weight training will transfer to improved endurance on the playing field. This is a false assumption. While max-strength may lead to *some* endurance benefits, it is not enough for a competitive athlete, particularly a combat athlete. A fighter must develop the ability to resist fatigue without a decrease in technical competence. Strength endurance is vital to the success of any combat athlete.

In one experiment, scientists modeled a wrestling match, where each athlete performed 135 throws (45 per period). As the modeled session progressed, there was a noticeable decrease in the quality of execution. Strength endurance was the strength quality that suffered the most. The results from the study showed that technical mastery is largely dependent on the athlete's strength endurance. As strength endurance declines, technical ability suffers (Verkhoshansky, 1985).

The results from this experiment should come as no surprise. Conditioning is critical, particularly in the combat sporting world. Unfortunately, despite modern day advancements in sports science, athletes continue to run out of gas. Regardless of the sport, fatigue usually plays a role in the outcome of the match.

Any fan of the combat sporting world (ex. wrestling, ultimate fighting, boxing, kickboxing) can quickly identify the importance of conditioning. Whether it is novice amateurs or experienced world champions, fatigue will almost always play a role in the outcome of the contest.

One useful *experiment* is to speak with a fighter immediately after losing a match. You will almost always hear the fighter comment about how he wishes he had put more time into conditioning. Common statements include:

"I ran out of gas."

"I've never felt that tired in my whole life."

"For my next fight, I will train twice as hard so I never get that tired again."

I've never heard a losing fighter exit the ring and make a comment such as, *"I wish I had spent more time on the bench press. If I could have bench pressed 10 more pounds, I would have won the fight."*

Fighters do not lose matches because they cannot bench press enough weight. Fighters lose because they run out of gas.

Clearly, technical ability is of primary importance, but conditioning is close behind. Without technical skill, all the conditioning work in the world will not help. However, once you have developed technical skill for your sport, you must develop the ability to **use** and **apply** this skill throughout the contest. The same can be said about physical qualities such as power and speed. You must develop the ability to **apply** these attributes throughout the match. It is not enough to demonstrate power for the first 10 seconds of the fight. You must maintain power until the final bell rings.

Unfortunately, many athletes overlook conditioning. These athletes spend their energy in the weight room, assuming endurance will be a byproduct of their strength routines. This is a mistake.

Strength endurance must be specifically targeted. Conditioning routines are challenging, both mentally and physically. The primary difference between a strength endurance routine and a maximal strength routine is time. No matter how intense the maximal strength exercise may be, the set will be relatively brief. For example, training for a one-arm chin-up is a daunting task. I worked very hard to achieve this feat. While the work was clearly intense, each set would only last a few seconds.

A strength endurance routine may last several minutes. Your muscles will fill with lactic acid. Your mind will beg you to quit. There is a lot more time to *think about* how intense you are working.

Conditioning routines are far from enjoyable. These routines force you to answer the question, "How bad do you want it?" You must be willing to pay the price and push through what resembles unbearable fatigue. Even world champions become tired. What separates a champion from a pretender is their ability to push through fatigue. You will never develop this ability if you do not train for this ability. You must generate fatigue while training, and then learn to push through it.

Former world champion boxer Muhammad Ali summarized this topic with the following line:

"I hated every minute of training, but I said, Don't quit. Suffer now and live the rest of your life as a champion."

As an athlete, you must make time for conditioning.

In addition to these general categories, it is useful to examine strength qualities such as reactive strength, starting strength, and acceleration strength.

Reactive Strength is the ability to change quickly from eccentric to concentric action. An example would be landing on the ground and immediately jumping upward. Another example is displayed when throwing punches in combination. For example, after throwing a right cross, you will immediately reverse the motion of your body as you follow with a left hook. Reactive strength utilizes the SSC (stretch shortening cycle). The stretch reflex begins with an eccentric phase, where the muscle lengthens under tension. During this phase, the body stores potential kinetic energy. If a concentric action immediately follows the eccentric action, the kinetic energy will increase the strength of the concentric contraction. The stretch shortening cycle is similar to the action of a rubber band. When you stretch a rubber band (eccentric), you store energy. As soon as you release the band (concentric), the energy is utilized with a powerful snapping action. The stored energy created by the tension increases the strength of the following contraction.

Starting Strength is the amount of force that can be developed at the beginning of a movement (typically denoted by the force developed within 30 milliseconds of beginning the contraction). Starting strength is produced under conditions of isometric muscle action, as it is developed at the initial moment of tension (Siff, 2003a). Brief, yet intense isometric sequences will enhance starting strength. For example, push against a wall (stationary object), reaching peak force as fast as possible.

Acceleration Strength is the ability to quickly increase force at the beginning of the contraction. For example, suppose John and Joe can both squat 500 pounds for one repetition. Despite equal totals, it takes John twice as long to lift the load. Joe has superior acceleration strength, as he can develop the force necessary to lift the load in a fraction of the time required by John.

Resistance bands are useful for training acceleration strength. Several resistance band exercises are demonstrated throughout this manual.

Each strength quality requires a unique protocol to ensure its development. Contrary to popular belief, the development of one strength quality does not ensure the development of another. Even strength qualities that seem similar

may in fact be weakly dependent on each other. For example, starting strength and the ability to display explosive force have little in common (Verkhoshansky, 1977). Therefore, a *strong athlete* can possess one of several strength qualities, while lacking in others.

Many coaches view *strength* as maximal strength. Consequently, their athletes spend most of their time developing maximal strength. In many sporting events, this is a mistake, as maximal strength is not the most critical strength quality utilized during competition. Maximal strength in the weight room does not ensure speed and power on the field or inside the ring.

Maximal strength does however serve several valuable purposes. Perhaps most importantly, maximal strength has a significant effect on motor units. Maximal strength training targets powerful, fast twitch motor units. Less intense training will not activate these fast motor units. Therefore, the largest, most powerful motor units are not engaged (thus do not respond) during low intensity exercise.

Maximal strength training affects the central nervous system. The impact to the nervous system is of paramount importance, as strength is a function of the muscles powerfully contracted by effective nervous stimulation, not large bulky muscles (Siff, 2003a). Training for maximal strength leads to neural changes, such as the increased firing rate of motor units, the recruitment of additional motor units, and improved synchronization of motor units.

Armed with this knowledge, let's now examine a common bodyweight training protocol, the use of high repetition calisthenics. For those of us who grew up in the combat sporting world, we have all spent many hours working with high repetitions. Whether your background is boxing, wrestling, or martial arts, I am sure that you are familiar with this protocol.

As stated earlier, high repetition exercise is excellent for strength endurance. Unfortunately, many athletes limit themselves to this style of training. A common workout will include high repetition squats and pushups. Unfortunately, these athletes rarely target their fast twitch muscle fibers. The intensity of a bodyweight squat or pushup is not enough to stimulate these motor units. Less powerful motor units assume the task. The powerful fast twitch fibers do not respond to the training.

This discussion is not intended to scare you away from high rep calisthenics. High repetition work is excellent for strength endurance, which is a valuable strength quality. The goal of this discussion is to simply reinforce the importance of variety in training.

After pointing the finger at high repetitions, we must also discuss those athletes who focus almost entirely on maximal strength. Many athletes have shifted their attention from strength endurance to maximal strength. This trend is also becoming more popular among bodyweight exercise enthusiasts.

Unfortunately, excess development of maximal strength has a negative influence on speed. Verkhoshansky established that excessive maximum strength training can hinder speed strength and technical skill in boxers (1977). Research has shown that prolonged, heavy workloads can slow the contraction speed of muscles. Furthermore, Mel Siff referred to a study by Filinov, which established that excessively heavy strength training can diminish the force and speed of a boxer's punches (Siff, 2003a).

Many trainers overlook this information. It has become increasingly common for trainers to encourage their young fighters to always *lift heavy* when working with free weights. This is a mistake, as a strength program limited to max-strength training will inevitably deteriorate the speed strength qualities of the neuromuscular system.

While maximal strength is an important prerequisite to explosive training techniques, it must not become the sole method of training. World-renowned sports scientists have been stating these facts for many years. Unfortunately, the information has fallen on deaf ears. Many athletes are unaware that the ability to produce maximal force and the ability to produce velocity are different motor abilities. The development of one does not ensure the development of another (Zatsiorsky, 1995).

For example, a defensive lineman may possess tremendous strength in the weight room (maximal strength), yet lack the ability to explode towards the quarterback because of his poor development of explosive strength. Clearly, the *total strength* available by this football player is significant. However, his total strength is not the deciding factor in his success on the playing field. What really matters is his ability to display the greatest force possible at the given moment. Time is a critical aspect, as tension must be developed in minimal time (explosive strength).

In addition, too much time spent training for maximal strength can fatigue the central nervous system (CNS). Due to the intensity of these training methods, the nervous system will need plenty of time for recovery. An overburdened CNS is a surefire recipe for overtraining and decreased performance. A fatigued central nervous system will hinder your ability to recruit powerful motor units,

which will ultimately limit your ability to produce force. Therefore, it is essential that maximal strength be trained in moderation.

Another potential problem related to excess maximal strength training is injury to the tendons, joints, and ligaments. Although I strongly believe that strenuous loading is safe, it can become dangerous when performed by an individual who is not structurally prepared. Voluminous work of moderate intensity is required to strengthen the tendons, joints, and ligaments (Verkhoshansky, 1985). These structures develop at a slower rate than muscles. If you dive headfirst into a maximal strength program without a solid foundation, you are asking for injury, with potentially serious consequences.

Yet, despite these *potential* drawbacks, maximal strength is **important** and **must** be developed.

- Maximal strength is an important strength quality. The development of maximal strength leads to several advantageous neural changes.

- Maximal strength does not ensure the development of other strength qualities, such as speed strength and explosive strength. Do not focus all of your attention to one strength quality.

- Excessive maximal strength training can lead to diminished speed strength and an overburdened central nervous system. Make time for restoration, and the development of other strength qualities.

- Voluminous work of moderate intensity is required to adequately prepare the tendons, joints, and ligaments for the strenuous workouts required to develop maximal strength.

Much of an athlete's strength training should be dedicated to *explosive* strength development. As mentioned before, explosive strength is the strength quality most characteristic of athletic activities. A successful athlete must possess the ability to develop significant tension in minimal time. If it takes too long to develop this tension, your strength will lack value in the competitive arena. Athletes must develop the ability to explode with power at the drop of a dime.

Please note however that you must develop a **solid foundation** before engaging in the exercises required to develop advanced strength qualities. For example, it would not make sense to prescribe an intense plyometric training program to an untrained client. The individual lacks the physical preparedness to engage in

such an activity. Voluminous work must be performed first to lay the foundation for more intense activities.

Clearly, the phrase *strength training* involves much more than picking up a pair of dumbbells or working through a few sets of pushups and pull-ups.

The strength program detailed throughout this manual will focus primarily on bodyweight exercise methods. We will successfully target each strength quality with little or no equipment. World-class strength does not require a world-class facility. We can develop each strength quality at home, without elaborate exercise machines.

In addition to these strength qualities, this program will dedicate time to *high-speed conditioning.* These workouts will target the two non-oxidative (anaerobic) energy systems (ATP-PC and glycolytic). The third energy system, the aerobic system, will also be targeted, but to a lesser extent.

The *high-speed conditioning* routines will take place at a faster pace than the strength endurance routines. These workouts will develop unique qualities. For example, high repetition bodyweight squats or pushups will develop a different *kind* of conditioning than full speed sprint intervals on the track. The high repetition work will emphasize strength endurance, while the sprint intervals will emphasize anaerobic endurance.

These concepts will be discussed in more detail in the conditioning chapter.

PULLING
STRENGTH & POWER

"No matter what the level of your ability, you have more potential than you can ever develop in a lifetime."
- James T. Mccay

Pushups are perhaps the most common exercise of all. I am confident that every reader of this book has spent some time on the ground performing pushups. Everyone wants to push, while few choose to pull. Pushups reign supreme in the bodyweight exercise world. Pull-ups are unfortunately a rarity.

The same phenomenon exists in the weight lifting world. The bench press rules as the most popular exercise among lifters. You could walk into any commercial gym and expect someone to ask you how much you can bench.

Lines often form around bench-pressing stations. Bench press junkies wait eagerly for their chance to hop on the bench. On the other side of the gym, you will be lucky to find a pull-up bar. Many of the bars are disguised as dirty laundry hangers, as gym members hang their wet towels from the bars to dry. Most gyms have more towels on the bar than hands.

Most bench press junkies ignore the upper back. Those who do train this musculature are content with a few sets on a carefully calibrated lat-pulldown machine.

I've never walked into a gym and had someone ask me how fast I could climb a 25 foot rope, or how many pull-ups I could perform while wearing a 100-pound weighted vest. Those of us who engage in these activities are clearly the minority. It is my hope that we can turn the minority into a powerful majority.

No one pays attention to the backside of the body. Most athletes focus all of their attention to the mirror muscles (front side). Everyone wants a powerful chest, while few take the time to strengthen the opposing muscles of the upper back. Consequently, muscular imbalances develop which leads to an increased risk of injury and most certainly hinders athletic performance.

Consider the following analogy. Large oil companies hire geologists to find oil. These geologists examine surface rocks and terrain with advanced satellite

imagery. When oil is found, rigs are set up and the drilling process begins. Large oil companies then sell the oil and earn millions of dollars.

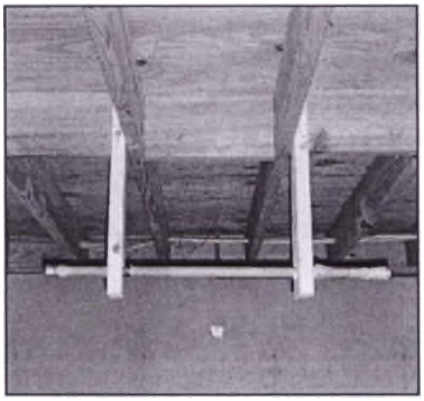
Rather than searching for oil, athletes spend their time searching for improved strength. Fortunately, we do not need high-tech satellite imagery to locate hidden sources of strength. All that you need is a pull-up bar. By regularly pulling on the bar, you will tap into a tremendous strength reserve. The backside of the body has an immense potential for strength development. Most athletes will never tap into a fraction of the strength that is there waiting to be exposed. Do not make this mistake. Train the body to push and pull.

Equipment Options

Before discussing the specific exercises, let's review a few low-tech solutions to homebound pull-up training. You do not need a state of the art training facility to perform pull-ups. Several options exist for home use.

Doorway Pull-ups - Doorway pull-up bars are available from many exercise equipment suppliers. The bar seen in the photo simply rests on the door jam. There are no modifications made to the door entrance. These doorway bars average between $30 and $50. You can find several of these products by typing *door gym* in your Internet search engine.

Basement Pull-up Bar - If you live in a house with a basement, you can easily build a pull-up station. As you can see, I have attached pieces of 2x4 inch wood to the overhead rafters. I then drilled a hole through each 2x4 and ran a piece of pipe through the holes. I secured the pipe by using inexpensive hose clamps. I inserted a clamp on the inside and outside of each 2x4 to keep the pipe from sliding.



Basement Steps - If you have open-ended stairs leading into your basement, you can perform pull-ups from one of the top steps.

You will likely need to kick your feet up to ensure full range of motion. This low-tech alternative will not require any construction.

Garage Rafters - If you have a garage with overhead rafters, you can hang from the rafters and perform pull-ups.

Place something underneath your feet so you can *step down* whenever necessary. You do not want to get stuck on the rafters and fall to the ground.

I simply use a bucket to step up to the rafters. This setup may not be pretty, but it gets the job done.

Tree Branch - A thick tree branch makes an excellent pull-up station. Grab the branch and start pulling.

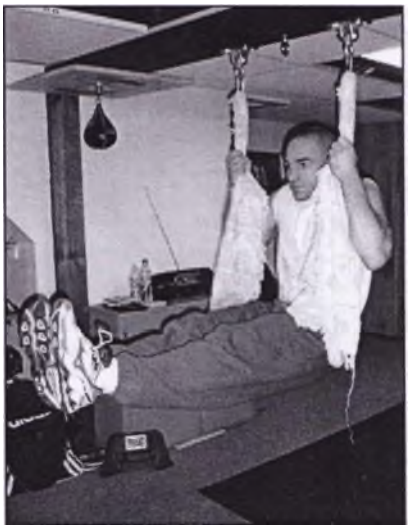
Another option is to hang a rope or towel over the branch. Grab one end with each hand and you've got yourself a fine towel pull-up station. This variation of the pull-up is particularly useful for forearm and grip strength.

Outdoor Rings - Playground rings are useful for several exercises. You can buy an inexpensive pair of playground rings at many sporting good stores. I have suspended a pair of rings from towing ropes, which are tied securely to a tree branch.

This set-up was inexpensive and easy to construct.

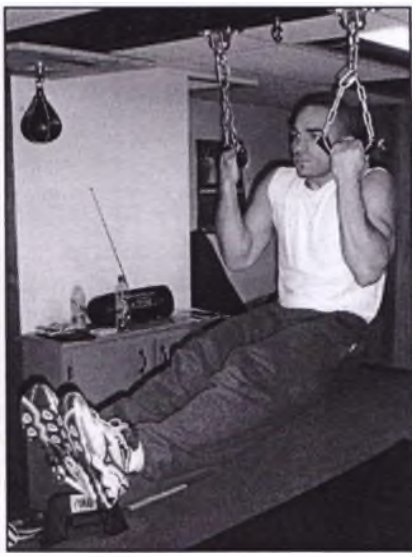
Swing Hanger Pull-ups - Another basement friendly pull-up option can be constructed with a pair of industrial-strength swing hangers, available at most hardware stores for less than $30. This idea came from Jim Biancolo*.

As you can see, I have attached the swing hangers to the overhead rafters in my basement. I then used a quick-link to secure a towel from each hanger. Because of low ceilings, I perform L-pull-ups from the towels. My legs extend straight, as my body forms the letter L. This variation is excellent for the core.



If you do not wish to perform towel pull-ups, you can instead hang homemade rings from the quick-links. I made these rings by running chain through a small piece of reinforced PVC hose. I connected the chain with a quick-link.

In a later chapter, you will also see these rings used as handles for a homemade isometric training tool.



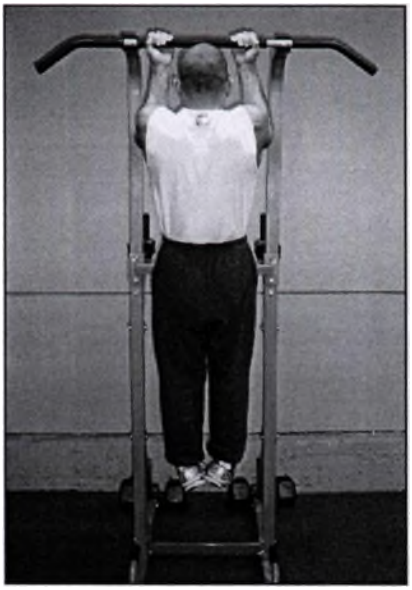
* Check out his site at http://www.leanandhungryfitness.com

Power Tower Station - Another option is a *power tower* (pull-up and dip) station. If you have the room, these stations are very useful. Expect to pay around $100 at most sporting good stores. Many of the exercises from this chapter are demonstrated on this device.

As you can see, there are several options for homemade pull-up training. If you look hard enough, I am sure that you can find a way to train pull-ups at home.

The Exercises

Throughout the rest of the chapter, I have included several pulling exercises. You will have multiple options to promote continuous gains and prevent boredom.



Let's start by reviewing two common pulling exercises, the **chin-up** (palms facing you) and pull-up (palms facing away).

Assume approximately a shoulder width grip for each movement.

Most athletes will be stronger with chin-ups, as you are able to pull with the biceps.

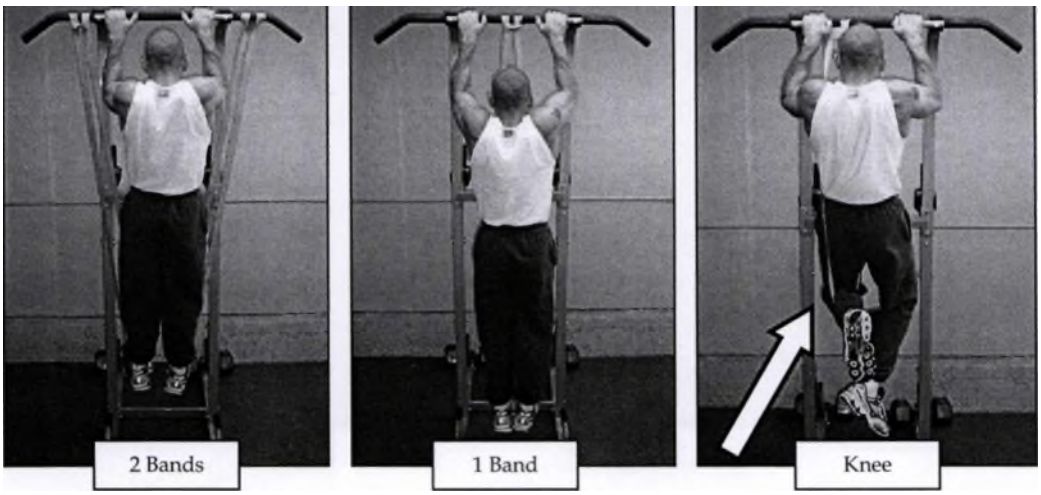
Pull-ups are more *functional* however. If you ever need to pull yourself up (ex. over a fence), your grip will resemble that of a pull-up, not a chin-up.

If you are unable to perform full repetitions, start working with negatives and static holds. For example, hoist your chin over the bar. You can either jump up to the bar or use a stool for assistance. Kick your feet out from the stool and slowly lower yourself to a free hang position. As you gain strength, incorporate static holds of 3 to 5 seconds. For example, lower yourself a few inches, and then hold this position for 5 seconds. Drop another few inches, and once again hold the position for 5 seconds. Continue dropping and holding until the arms hang straight from the bar.

Resistance bands can also be used to perform **assisted pull-ups**. If you are unable to perform full repetitions, the resistance band will help *pull* you up to the bar. When performing assisted pull-ups, you should use a loop shaped band. Two excellent resistance band products include the Flex Bands® from Jump Stretch *(www.jumpstretch.com)*, as well as the bands from Iron Woody Fitness Equipment *(www.ironwoodyfitness.com)*.

Several band exercises will be illustrated throughout this manual. Bands are excellent for spicing up any bodyweight exercise routine. Resistance bands are effective, inexpensive, and easy to pack when traveling.

When performing an assisted pull-up, you can use one or two bands, depending on how much assistance is required. A light resistance band is typically all that is necessary to pull your chin over the bar. Below, I have illustrated a double band set-up, a single band, and a single band around the knee. For the double band, I have looped the bands with a slip-knot on each side of the bar. I then placed each foot inside one loop. The tension from the band lightens the load when pulling on the bar. If you only need one band, you can attach the band to the center of the pull-up bar. Position both feet inside the loop that forms at the bottom. If the band is not long enough to reach the feet, you can loop your knee through the band.

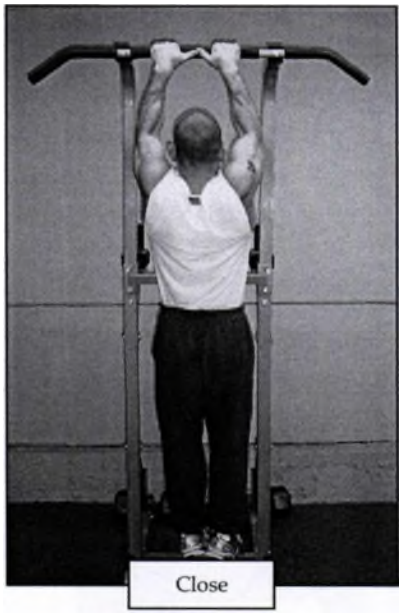


If you do not wish to buy resistance bands, you can save money by purchasing rubber pallet bands. One excellent supplier is *www.mcmaster.com*. Although these bands are not as strong as the bands referenced above, they can be useful for assisted pull-ups. I learned of this idea from two innovative homemade equipment creators, who go by the names *Gruntbrain* and *Shenandoah**

* Check out more homemade training tools at their site: http://www.angelfire.com/ny5/shenandoah/Grunt/grunt.html

By regularly working with negatives and resistance bands, you will quickly gain strength on the pull-up bar. You will develop the ability to perform unassisted pull-ups. Once you reach this point however, you do not need to abandon these techniques. For example, suppose you reach the point where you can muster one repetition. Performing this one repetition will be very stressful for you. One repetition for you will equate to training for maximal strength (you will need every last drop of strength to perform the repetition). As mentioned earlier, too much time spent training maximal strength can lead to burnout. For this reason, you should not limit yourself to this protocol, simply because you have achieved your first unassisted repetition. You can continue to work with bands and negatives to build more volume on the bar. The key to improving on the pull-up bar is to increase volume, without burning yourself out. This logic holds true whether you are training for your first repetition, or your first one-arm chin-up.

As you continue to gain strength, and can eventually string together several unassisted pull-ups, you can begin working with new variations. Never limit yourself to one hand position. Incorporate variety to prevent staleness.



Two options include a **close grip** and **wide grip** hand position.

By moving the hands six inches in or out, you will hit the muscles from slightly different angles.

Please note however that certain trainers believe wide grip pull-ups are damaging to the rotator cuffs.

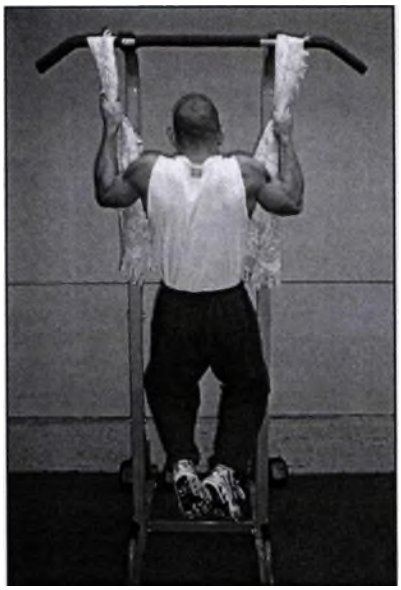
I do not agree with this assessment. I have used the exercise for many years and have never experienced any pain. Suppose you were rock climbing. You cannot climb with a single hand position. You may need to grip the rock at a wide angle to pull yourself up. Wide grip pull-ups can certainly be useful at times.

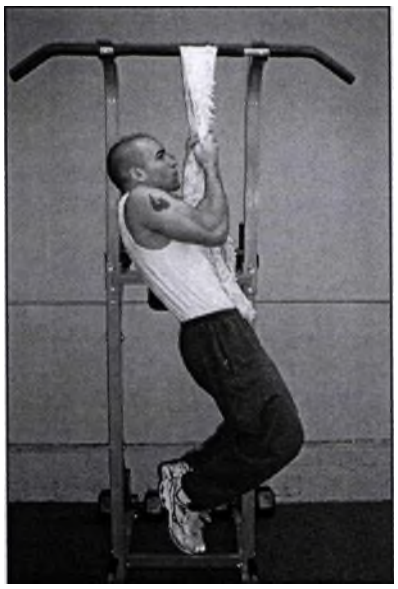
Ultimately, you must apply commonsense to **your** workout. If an exercise causes pain, you should stop and opt for another variation. We all have unique bodies.

No one knows your body better than you. If you feel pain, who am I to say the exercise is not painful. Always listen to your body. It is the ultimate feedback mechanism.

Grip Strength + Pulling Power

With a few modifications, the pull-up bar can be converted into an awesome grip tool.

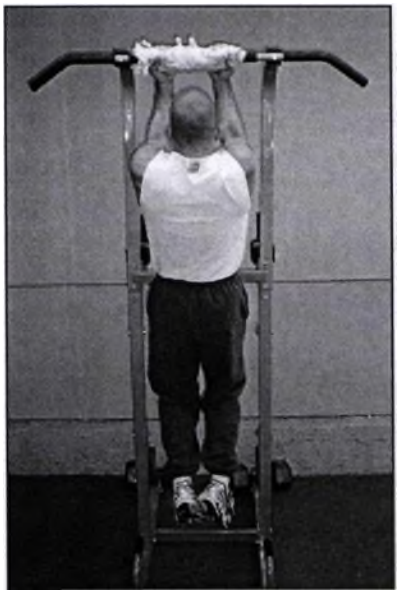


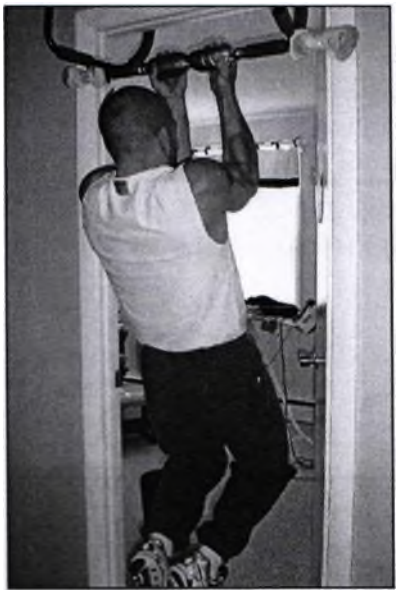


Drape one or two towels over the bar to blast the grip and forearms.

This simple addition is one of the best that you can make to your pull-up training.

Towel pull-ups are a favorite of mine.

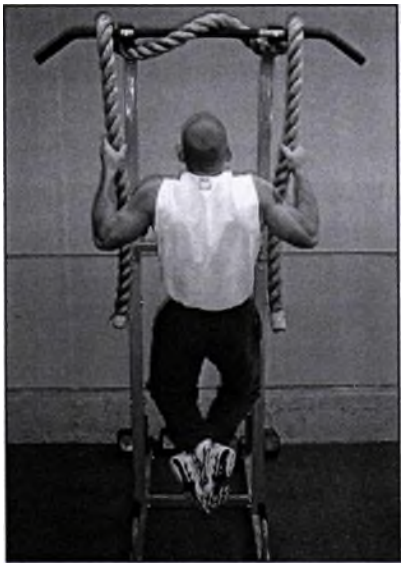




Fat can be fun when discussing pull-ups. In the first picture, I have wrapped the bar with a towel to increase the thickness of the bar. This fat bar will blast the forearms.

In the next picture, I've wrapped duct tape around the inner grips of my doorway pull-up bar.

With the duct tape option, it becomes permanent. For this reason, I only apply tape to one location on the bar. You can add a few layers of tape each week as your strength improves.



Rope Pull-ups are also excellent for grip strength. In the picture, you can see how I have draped a manila rope over the pull-up bar. I bought the 10-foot piece of rope from *www.mcmaster.com*. You will grab the rope in each hand and perform pull-ups.

Later in this chapter, I have discussed several rope climbing exercises. If you do not have a place to climb, rope pull-ups are the next best thing.

I recommend using a rope that is 1.5 or 2 inches thick. The rope seen to the left is 2 inches thick. This size rope is excellent for grip strength.

Adding Weight

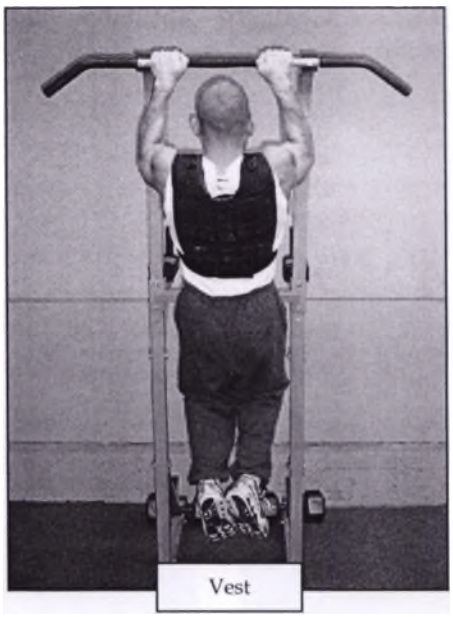
When working to perform your first pull-up, the exercise is primarily a *strength-based* movement. In time, one repetition will provide much less of a challenge. As you begin working with higher repetitions, the exercise will target strength endurance, as opposed to maximal strength. For example, suppose you can perform 30 bodyweight pull-ups. Working with such high numbers is a tremendous display of strength endurance.

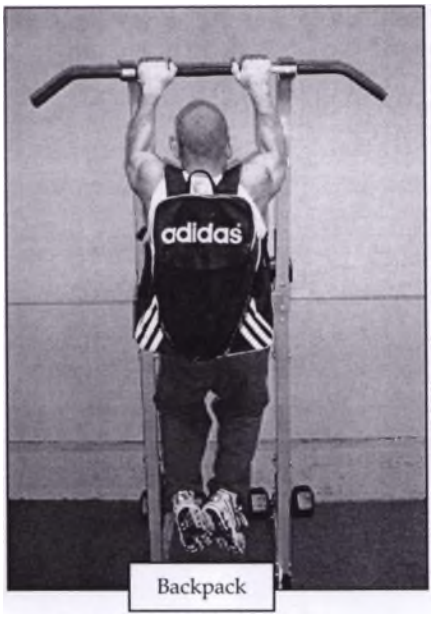
If you wish to target maximal strength, you will need to work with more difficult variations (ex. one-arm chin-up progressions) or add weight to your pull-up routine. Weighted pull-ups and chin-ups will build tremendous strength on the bar.

There are several options for adding weight to your pull-up session. Perhaps most common is the use of a weighted vest. Weighted vests can be added to several exercises. A partial list includes movements such as pushups, squats, lunges, dips, and rope climbing. Two quality providers include *www.thexvest.com* and *www.weightvest.com*.

A less expensive pull-up option can be constructed with a durable backpack. Simply stuff a backpack with freezer bags filled with sand. This homemade contraption is useful for exercises such as pull-ups and pushups. It is not as

versatile as a vest however, as all the weight sits on one side of the body (the backside). A weighted vest evenly distributes the weight.

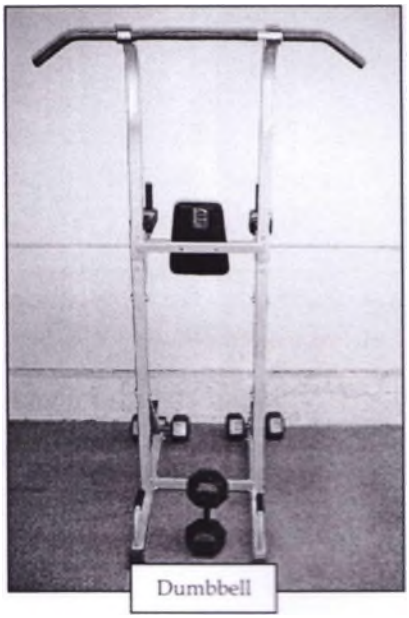

Vest

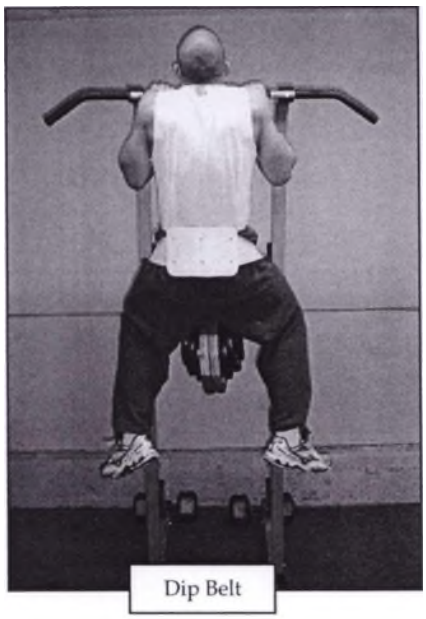


Backpack

Conventional weights can also enhance your pull-up session. Two options include the use of a dip belt or a dumbbell positioned between the feet. One possible advantage of these methods is that you are able to provide additional resistance without obstructing the natural movement of the exercise. Suppose you are using a weighted backpack, all the weight will sit on your backside. The backpack may be uncomfortable to some users.

A dip belt is particularly useful as you can add a lot of weight, and make quick (and small) weight adjustments. Below, I have added 100 pounds, and still have room for more weight.


Dumbbell


Dip Belt

Speed and Power

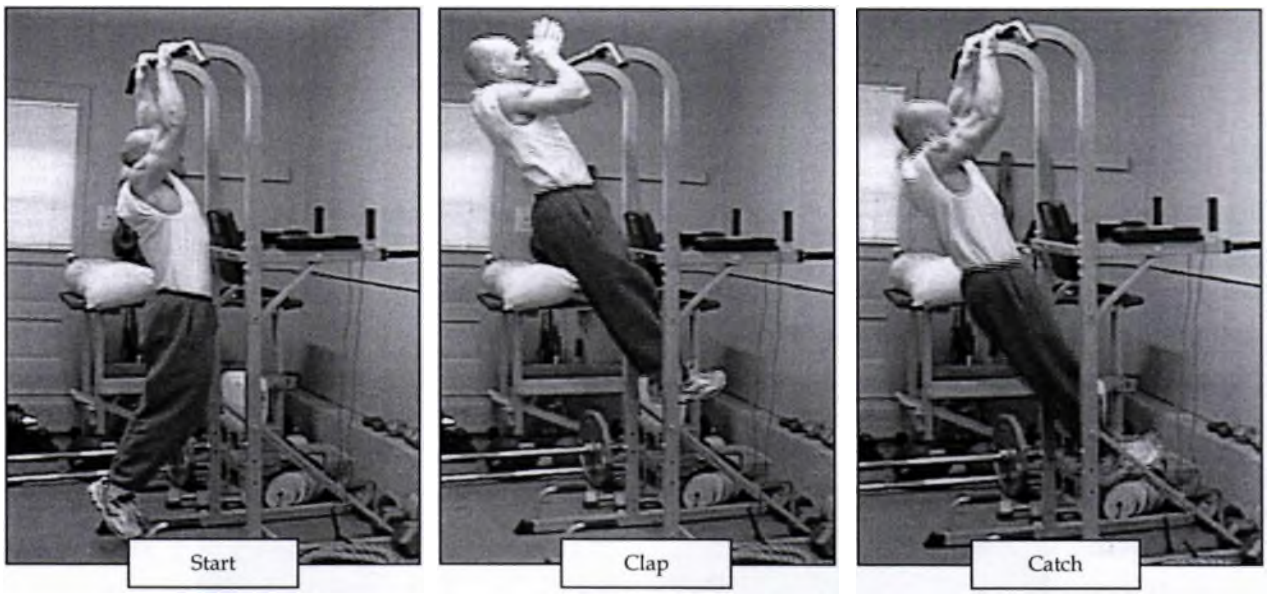
As mentioned earlier, the development of one strength quality does not ensure the development of another. It is possible to display tremendous maximal strength, while lacking in other strength qualities such as speed strength and explosive strength.

Do not overlook the importance of these *explosive* strength qualities. Even when you progress to heavy weighted pull-ups, you should still find time for un-weighted speed pull-ups as well as higher rep work. By working with each variation, you will develop several strength qualities.

Below, I have demonstrated the **clap pull-up**. To perform this exercise, you will begin with a traditional pull-up grip. From this position, you will pull as hard and as fast as possible. Your goal is to pull *up and over the bar.* You will then take your hands off the bar, clap the hands together, and catch the bar as you descend towards the ground.

The momentum from catching the bar will bring you back to the beginning position. From this point, you will immediately reverse the motion, once again pulling hard with the goal of catching air and clapping the hands together.

Do not perform this variation on a doorway pull-up bar. The momentum from catching the bar may cause damage to your door entrance. You will need a secure pull-up bar to safely perform this exercise.



A similar variation can be performed by changing hand positions from a pull-up to a chin-up and vice versa. These **alternating grip pull-ups** require more coordination and timing than the clapping pull-ups.

You will start in the pull-up position. Pull hard and remove your hands from the bar as you ascend. Release the hands and quickly catch the bar in the chin-up position. Drop back down to a free hang (illustration 4 below), and pull from the chin-up position. You must then release the hands and catch the bar with an overhand (pull-up) grip. Continue with this back and forth (alternating) motion.

1. Start

2. Pull Hard

3. Release

4. Catch

5. Pull Hard

6. Release

When first attempting these exercises, I recommend starting with single repetitions. Try to perform one rep, and then remove yourself from the bar. Become comfortable with one repetition at a time. You can then work to string together multiple repetitions. It is much more difficult to perform several consecutive reps.

Ross, how are these movements beneficial? Are they just for show?

While writing this text, I posted a video clip to the *www.warriorforce.com* website where I demonstrated each of the previous two exercises. Following the brief video clip, I received several questions about the value of these movements.

These exercises offer several benefits. First, these movements require much more coordination than a traditional pull-up. These movements are also valuable at enhancing body awareness. You will be forced to execute these movements (either a handclap or a change of grip) while the body is airborne. In addition to the power required to become airborne, you must also utilize timing and hand-eye coordination. If either of these qualities are lacking, you will miss the bar on your descent.

Furthermore, these pull-up variations lack deceleration. You are able to pull as hard as you can, all the way through the exercise. There is no need to *stop* at the top of the exercise. You pull through the traditional stopping point. You are able to accelerate all the way through the exercise. These movements are ideal for the development of explosive pulling strength.

Another useful exercise that can be performed on the bar is the muscle-up. A muscle-up from a pull-up bar is a tremendous full body movement. This exercise will require speed, power, and coordination.

For starters, you will need a pull-up bar that does not have interference by the legs and midsection. I do not perform this exercise on my pull-up station. The abdominal apparatus causes interference with the legs during the ascent to the top of the bar.

You will also need a good deal of overhead clearance. Your entire midsection will clear the bar at the top of the movement.

Therefore, I perform this exercise on an outdoor pull-up bar. I can integrate this movement into playground workouts. I occasionally bring a small group of athletes to a local schoolyard. We use the field for various sprint drills and

calisthenics. We can then use the playground equipment for exercises such as pull-ups and muscle-ups. These workouts offer one enjoyable way to spice up the monotony of training.

The muscle-up is essentially a combination of a pull-up and dip.

You will start by pulling hard on the bar. You will pull the chest up towards the bar. As the chest approaches the bar, you will lean forward and push the bar under the shoulders.

The transition from the pull-up to the dip is the most difficult part of the exercise. The shoulders will essentially *roll over* the hands. Once you reach the transition phase (step 3), the finishing portion is much less difficult. You will simply push down on the bar.

You will need a good deal of explosive pulling power to make the transition from pull to push. Upon reaching step 4, you will return to the start position and continue.

Many athletes struggle to perform this exercise. Once you achieve your first repetition however, you will understand and *feel* the coordinated movement that must take place. You may need several weeks to perform your first repetition, and then crank out several reps just a few days later. Once you gain a feel for the exercise, everything falls into place.

Muscle-ups can also be performed from rings (ex. playground or gymnastic rings). In the illustrations above, I have used an inexpensive pair of playground rings, which are attached to a towing rope.

If you do not wish to use this low-tech setup and prefer the *real deal*, check out www.ringtraining.com for a nice pair of gymnastic rings.

When performing the muscle-up from rings, you must start by learning the false grip. To achieve this grip, you will rest the base of your palm on top of the rings. This gripping style will provide more leverage when transitioning from the upward pull to the dip. You will be able to push from the palm of the hand.

Personally, I do not believe the false grip is necessary for a muscle-up from a pull-up bar. The false grip however is useful for a ring muscle-up.

To perform the ring muscle-up, you will start similarly to the bar muscle-up. Pull the chest up towards the rings. As your chest approaches the rings, lean the body forward and transition into the dip position. Once again, this transition is the most difficult part of the exercise. As with the bar muscle-up, the shoulders will roll over the hands, as you lean forward into the bottom portion of the dip. Lastly, you will press upward, locking the arms out on top. As you lower yourself to the beginning position, you will likely gain momentum which will help you string together several consecutive repetitions.

Rope Climbing

In addition to outdoor rings, I highly recommend a rope climbing station. You can buy a quality rope from the previously referenced *www.mcmaster.com*. Rope climbing is a tremendous pulling exercise, which will also develop powerful hands and forearms. Many athletes underestimate the grip training benefits of rope climbing.

I have several ropes that I use for climbing. I have converted a large pine tree in my yard into a rope climbing workout station. If you choose this option, be sure to use a **sturdy** tree branch to tie off your rope.

If rope climbing is new to you, you may need to use your feet to help with the climb. You will loop the feet around the rope as you pull with the arms. Eventually, you should avoid using the feet for assistance.

I actually recommend extending the legs out in front of the body. Your body will resemble the shape of the letter L. This position will force you to climb with the upper body, while the core remains activated. This position will also allow you to start from the ground. As you can see below, I start climbing from a seated position. This will extend your climbing range.

If you have two ropes, you can climb both ropes at the same time. The **double rope climb** is an excellent exercise. Each hand must fend for itself. Pull hard with one hand at a time, minimizing assistance from the non-working hand. For example, when pulling with the left hand, the right hand should be minimally involved.

Start Position

One Rope

Two Ropes

Whether you use one or two ropes, you should view each climb as a race. Climb the rope as fast as possible. You will develop tremendous pulling strength on the rope. I often set a timer for 5 or 10-minutes and climb the rope as many times as possible during the interval. The workout becomes a challenging event with strength and conditioning benefits.

Inverted

As you gain strength with the rope, you can eventually work with a more difficult variation, the **inverted rope climb**.

For this exercise, you will climb the rope from the upside-down position. This variation is much more challenging than the traditional rope climb. First, you must overcome the fear of climbing from this position. Many athletes lack confidence in the inverted position. In addition to the potential fear that exists, this variation is more physically demanding. You will need a good deal of pulling strength for the inverted rope climb.

From a standing position, you will pull on the rope and bring the feet over the head. Hook your feet around the rope. From this position, you are ready to start climbing. Be forewarned however, as it is very difficult to stabilize the body in this position and climb with one arm at a time. When first attempting the exercise, I recommend climbing just a few feet at a time. You need to develop confidence in your ability to come back down. You do not want to become stuck on the rope, while hanging upside down from the top of a 25-foot rope.

I descend the rope from a traditional upright position. Simply unhook the feet, as you hold on tightly to the rope. You will then return to the upright position and be prepared to descend.

I do not recommend inverted rope climbing until you become very proficient with the upright climb with extended legs.

To those who consider exercises such as the inverted rope climb as dangerous and unnecessary, I could not disagree more. If you are physically prepared, this exercise is safe. As an athlete, I enjoy the rush and challenge that I experience when working with difficult movements. I do not wish to isolate myself in a bubble. I enjoy pushing myself to the limit. With a little commonsense, exercise is not dangerous. You simply need to know your limits, abilities, and take the time to gradually progress. The body is capable of more than most people will

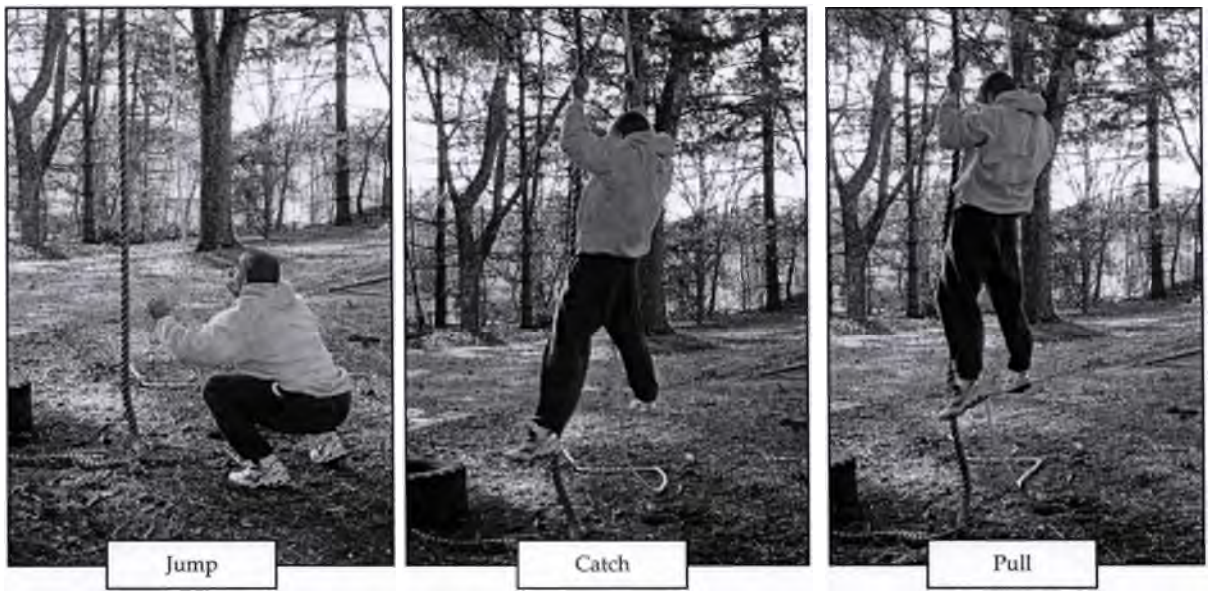
ever realize. If more people exercised, the world would be a better place. I find it humorous that someone will label this exercise as dangerous, but think nothing of hopping behind the wheel of their automobile after a few alcoholic drinks. There are more dangerous activities than climbing a rope to improve yourself physically and mentally.

As Mark Twain said,

"Twenty years from now you will be more disappointed by the things you ***didn't do*** *than by the ones you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover."*

Another exercise that you can perform with one or two ropes is a movement that I have named the **jump, catch, and pull**. This is an extremely effective exercise that targets several objectives.

You will start by lowering yourself into the squat position. From here, you will explode upward, jumping into the air. While in the air, catch the rope in the hands. Immediately transition from the rope catch to a pull-up. As you can see below, I have used two ropes to demonstrate this exercise. You can also perform this exercise with one rope.



At first glance, you may not realize the effectiveness of this movement. This exercise develops what I consider *real* grip strength. You do not have time to warm up the hands. In a split second, you must grab the rope and then pull your bodyweight up with a pull-up.

Compare this method of grip training to many other common exercises. For example, many athletes limit their grip training to squeezing a handheld gripper. I happen to recommend handheld grippers for strength development, but you must not limit yourself to this modality. For example, many athletes will psyche themselves up when training with a high-tension gripper. These grippers will develop maximal strength, which is clearly a useful quality. Catching the rope in mid-air develops a different quality.

Consider the following scenario. Suppose someone walks by and snatches your wallet. The thief will not stick around to observe your reaction. They will snatch and run. You must be able to instantly grab the individual and hold him. You do not have time to warm up the hands and psyche yourself up to make the *grab.* It must happen instantaneously. The same logic applies to a ground fighter such as a wrestler or grappler. You must be able to reach out and grab your opponent, without letting go. These actions happen in split seconds. You need explosive strength to instantly latch out and hold on.

The jump, catch, and pull is one way to develop this ability. To make the movement more difficult, you can start by **looking down** at the ground, rather than looking up to the rope. This variation will help improve your reaction abilities. While traveling upward (in the air), you must first locate the rope, and then reach out to grab it. You could even start with the hands behind the back. These slight tweaks will make the exercise much more difficult. The increased difficulty will not be from a strength standpoint, but rather one of reaction abilities, timing, and coordination.

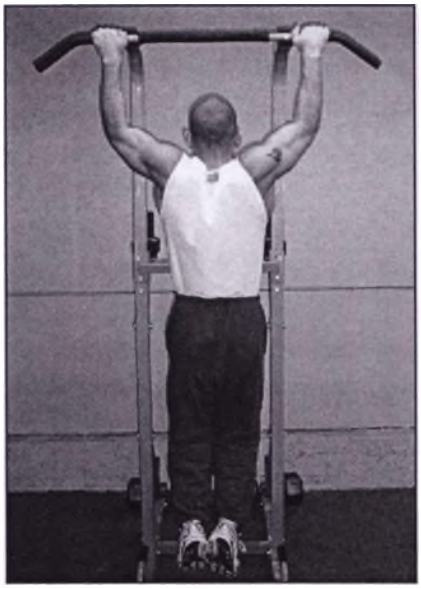
More Pulling

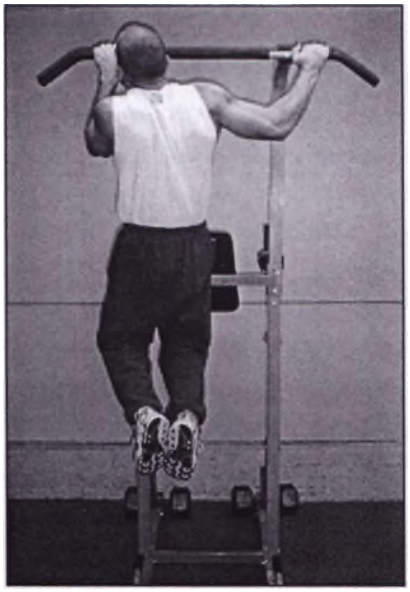
If you reach the point where you are looking for an even greater challenge on the pull-up bar, you can train for a one-arm chin-up (or pull-up). The one-arm chin-up is a very difficult exercise, which will take many months to achieve.

I discussed a training protocol for the one-arm chin-up in a prior manual *Infinite Intensity.* I have included a similar discussion in this guide for those readers who are not familiar with the previous text.

I began training for the one-arm chin-up for no reason other than the fact that I was looking for a new challenge. I become bored easily and enjoy challenging myself towards new goals. I had read stories about legendary strongman Eugene Sandow performing one-arm chin-ups with one finger on the bar! After

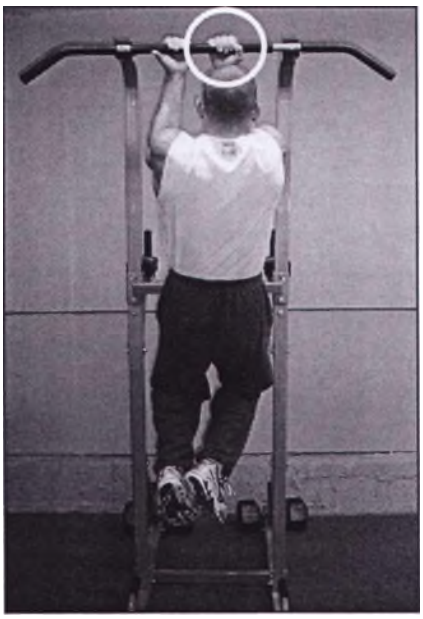
reading of such tremendous displays of strength, you start to realize that *impossible* is only a word. The only impossible feats in this world are those that you accept. I refuse to believe in the word.





The **side-to-side** pull-up is an introduction to pulling with one arm at a time.

Start with a slightly wider than shoulder width grip. From this position, you will pull with one arm at a time, alternating between left and right sides. A set of 12 reps will include 6 pulls to the right and 6 pulls to the left.



The **one-arm emphasis chin-up** is the next step after working with side-to-side pull-ups. You do not need to be *super strong* to benefit from this exercise.

This variation will stress one side at a time. In the photo, my right hand is circled. This arm is trying to do all the pulling. The left arm loosely grips the bar and only performs as much work as is needed.

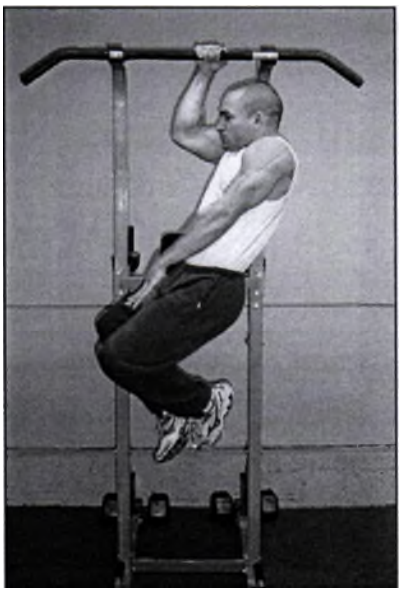
During a traditional chin-up, each arm will produce 50 percent of the pulling force. With the one-arm emphasis variation, you are trying to increase the percentage of one arm. For example, one arm will produce 70 percent of the necessary strength. The assisting arm will only contribute 30 percent.

Gradually, you will work towards 75, 80, 90, and finally 100 percent from one arm. The beauty of this exercise is that it can be performed by anyone. Even if you start with 55 percent, **YOU** have converted the exercise into somewhat of a unilateral strength movement.

As you gain strength with the one-arm emphasis variation, you can modify the exercise by lowering one hand to a towel, or by gripping the bar with one finger off to the side.

With each of these variations, try to perform as much work as possible from the hand that grips the bar. Use the other hand on an *as needed* basis.

Due to the stress of these exercises, I recommend working with low reps. For example, you could train with multiple sets of 2 or 3 repetitions. These are not high repetition exercises. These exercises are designed to develop maximal strength.



Static holds will also develop tremendous strength on the bar. The **one-arm static hold** is a strenuous exercise. Do not attempt this exercise until making considerable progress with the one-arm emphasis variations.

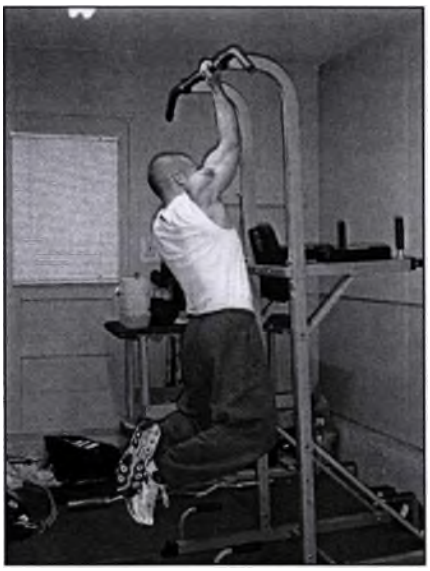
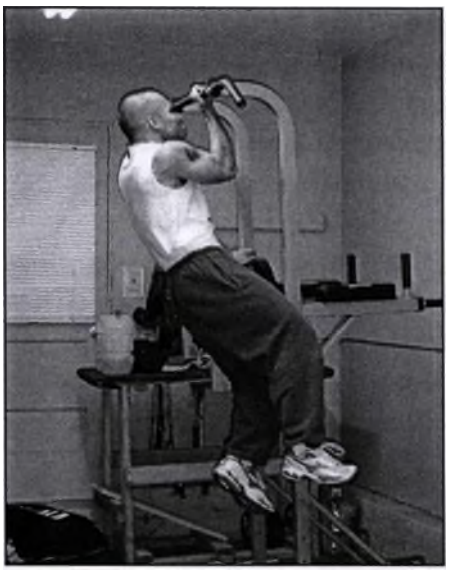
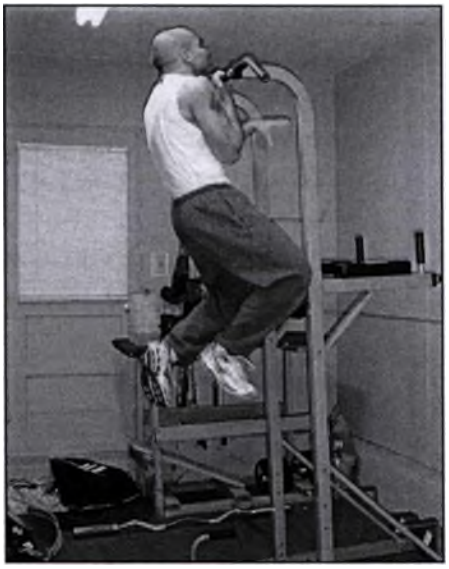
For the static hold, you will assume a sideways stance on the bar. Pull your chin over the bar with both hands, and then release one hand from the bar. Try to hold yourself at the mid-range position for several seconds.

If a static hold is too difficult, you can work with a **one-arm eccentric drop.** To perform this exercise, you will start with the chin over the bar. Release one hand and slowly lower yourself until the working hand is fully extended. Upon reaching full extension, remount the bar with both hands. Pull yourself back to the top of the bar, and repeat.

Eventually, you can integrate the one-arm eccentric drop with the static hold. As you are lowering yourself (eccentric drop), you can stop every few inches and perform a static hold for a few seconds. For example, stop every 3 inches and hold the static position for 3 seconds. Continue this pattern until the arm is fully extended.

Once comfortable with eccentric drops and static holds, you can attempt the full one-arm chin-up. Execution of this exercise will require a tremendous amount of strength, as well as coordination and balance. It is natural for the body to spin to the side as you attempt the one-arm chin-up.

One way to strip the exercise of the balance requirement is by performing a one-arm chin-up from a gymnastic ring. You will not need to stay in line with the bar. Eventually however, you must mount the bar and overcome the issue of balance and body awareness.

Achieving the one-arm chin-up is a very slow process. The physical requirements are difficult, and because of the stress associated with the exercise, you cannot train for this movement very often. When working towards the one-arm chin-up, I trained on the bar 3 or 4 days per week. My training would include traditional two-hand chin-ups and pull-ups, as well as the more difficult one-arm progressions detailed throughout this chapter.

A two-week block from one of my 2005 training logs is listed below:

Monday	Weighted chin-ups and pull-ups, utilizing various hand positions
Wednesday	Two-arm pull-ups and chin-ups (high reps)
Friday	One-arm chin-up progressions
Sunday	Weighted chin-ups and pull-ups, utilizing various hand positions
Tuesday	One-arm chin-up progressions
Thursday	Two-arm pull-ups and chin-ups (high reps)
Saturday	One-arm chin-up progressions
Monday	Start back at the beginning

For each of these workouts, I would perform multiple sets on the bar. For example, I may perform 10 or more sets of weighted chin-ups. I would also stop short of failure. You should not train to failure when trying to develop maximal strength on the bar. During the two-hand workouts, I would work with several pulling exercises. In addition to traditional pull-ups and chin-ups, I would mix it up with exercises such as clap pull-ups, towel pull-ups, rope pull-ups, and rope climbing.

These pull-up workouts would be performed as a mini-workout during the day, or I would start a full body workout with these exercises. For example, I would start my strength workout with 15-minutes of pull-up training. Whenever you are training to develop a new movement, it is wise to start your session with these exercises. The body must be fresh and rested to develop strength in a new movement. It would be counterproductive to try training for a one-arm chin-up after you have already completed an hour workout.

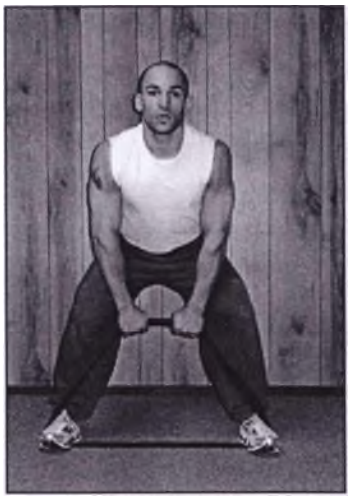
If you choose to train for the one-arm chin-up, be prepared for a long haul. You will not achieve this exercise after a few weeks of training. It will take many months of dedicated work. If you rush the process, you will likely develop pain in the elbows. Slow and steady wins the race, and unfortunately, there are no shortcuts in this race. Consistency and patience will be your two most valuable weapons.

Common Pull-up Questions

Ross, what should I do if I do not have access to a pull-up bar?

Despite the homemade options discussed in this chapter, there may be times when you are unable to perform pull-ups. For example, you may be at a hotel with no access to a pull-up bar. You could try pull-ups from the actual door, but you will run the risk of ripping the door out of the hinges.

A wiser alternative would be the use of resistance bands. You can easily pack these bands in a suitcase.



A high pull with a strong band is an effective pulling exercise. Stand on the band and explode up, pulling towards the ceiling.

Use a wider stance on the band to increase tension. A wider stance will reduce the amount of band that can be pulled. You will need to pull harder to get the band up to your chin.

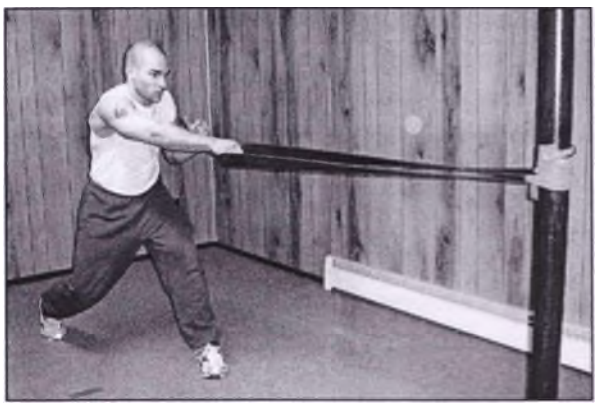
The band high pull is also a great exercise to incorporate into conditioning drills. A fast paced set of moderate to high reps with this exercise will condition the entire body. Bands are also ideal for outdoor conditioning sessions. Bands are much easier to carry to the park than a heavy set of weights.

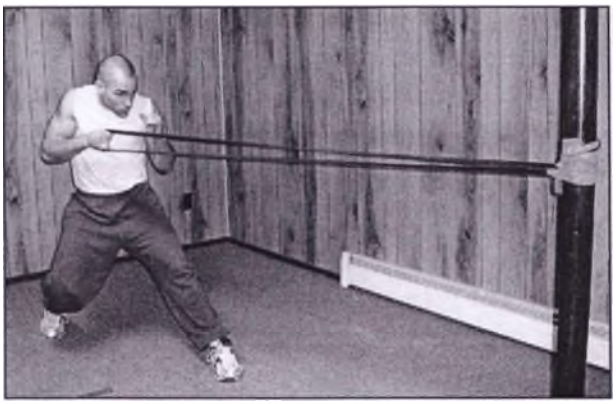
Sample conditioning drill:

- Sprints x 50 meters
- 10 x high pulls with bands
- 10 x chest press with bands (see page 124)
- Jog back to the starting line and continue 5 to 10 times

This simple workout includes sprint work, pushing, and pulling. It will target the entire body and does not require bulky equipment. For an indoor alternative, you can replace the sprint with 30 bodyweight squats (page 91).

Another useful pulling exercise involves one arm at a time. Secure the band and pull to one side. You can also incorporate a rotational aspect into this exercise.

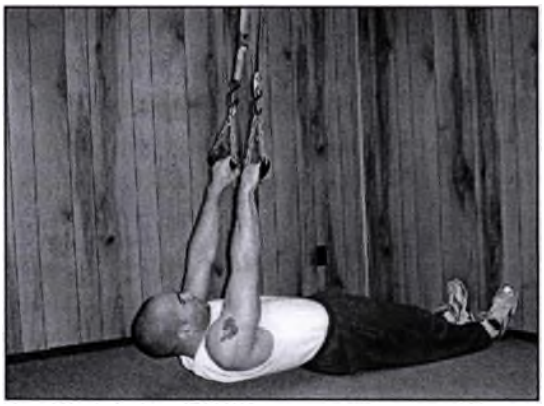




Ross, I am still unable to perform pull-ups. Are there other exercises that I can use to prepare myself for the pull-up bar?

A **body row** can be performed with the homemade rings seen earlier. I use a tow strap (also referred to as a universal tie-down) to attach the rings. The length of the straps can be quickly converted by adjusting the cam buckle.

You will grab the rings and hang with the body straight. Your body will start almost parallel to the floor. From this position, you will keep the feet grounded, while pulling the rings towards the chest. This exercise is an excellent choice if you are still training for your first pull-up.



Ross, I can perform 5 pull-ups. I've been stuck on this number for several months. What can I do to increase reps?

If you are stuck at a particular number, you will need to make some changes. This can be accomplished by working with different rep ranges and different hand positions. Do not limit yourself to one variation. As you have seen throughout this chapter, there are several pull-up variations. Mix it up to prevent physical and mental burnout.

As mentioned before, to improve pull-up ability, you must increase volume without burning yourself out. A routine which consists of 3 sets to failure will do little to improve your strength on the bar. Oddly enough, this is a very common scenario on the pull-up bar.

While pull-ups are far from a popular gym exercise, those who do perform the exercise typically limit themselves to a few sets, each performed to failure. This is a mistake. As mentioned earlier, you do not gain strength during the workout.

You gain strength between workouts. If you continually train to failure, you are not providing the body enough time to recover and grow stronger. You are essentially digging yourself into a ditch. You will never outgrow the ditch and improve on the bar.

Rather than training to failure, I typically work with multiple sub-maximal sets. For example, I will stop approximately 2 or 3 repetitions short of failure. I am able to increase total volume, without pushing myself to complete exhaustion. With this protocol, I am able to recover much faster, which enables me to train more frequently on the bar. I typically train pull-ups 3 or 4 days per week.

If you are stuck at 5 repetitions, try working with several sets of 3 repetitions. For example, work with 10 sets of 3, and then 10 sets of 2. Rest briefly between sets. You could also mix in some lower body exercise between sets to make better use of your time (ex. perform 15 bodyweight squats between each set of pull-ups).

Pyramid sets also work well when training to increase reps.

Pyramid Sample

- 1, 2, 3, 4, 3, 2, 1 (each number represents one set)

This pyramid consists of 16 total repetitions. Rest briefly between each set. After completing the entire pyramid, rest 1 to 2-minutes. Perform 3 complete pyramids for a total workout of 48 reps.

Working with such a system will quickly lead to improvements in pull-up ability. You could perform this pyramid workout 3 days per week. Within 3 weeks, you will fly past 5 repetitions for a one-set maximum. Test yourself every few weeks (one set to failure) to monitor progress.

Pull-up Summary

Take advantage of the nearest pull-up bar. If you do not have access to a pull-up bar, use your imagination. If you look hard enough, you can usually find a way to include pull-ups in your routine. The best way to improve at pull-ups is by performing the exercise. Consistency will always be your best weapon.

PUSHING STRENGTH & POWER

"Challenges are what make life interesting; overcoming them is what makes life meaningful" - Joshua J. Marine

Following the discussion on pulling strength, it only makes sense to continue with a discussion dedicated to pushing strength. Clearly, the most common pushing exercise is the pushup. There are those who swear by pushups, while others scoff at the exercise. These individuals consider pushups a waste of time, claiming they are only useful for muscular endurance. You can usually find these folks bench pressing or using a carefully calibrated pec-dec machine.

Let's get one thing straight. Pushups are not a waste of time. If you believe pushups do not offer a challenge, you have not looked hard enough. In addition to the obvious upper body benefits, pushups are also useful in developing core strength and stability. Pushups are essentially a full body exercise.

Several pushup exercises exist. You can target each strength quality with a pushup variation. Contrary to the opinion of many naysayers, pushups are useful for much more than the development of strength endurance. After reading this chapter, you will understand that you do not need to bench press to develop a powerful, explosive upper body.

Exercises

To perform a pushup, begin with the chest down, and the hands positioned at approximately shoulder width.

While looking forward, straighten the arms as you push up from the floor. Do not bend or arch the back as you push up. Exhale as you straighten the arms. Pause briefly upon reaching full extension and continue.

If you cannot perform full pushups, you can practice this exercise from the knees. Standard pushups serve several functions. This exercise is ideal for use in circuit routines. For example, a sprint workout can be quickly intensified by adding a set of 20 pushups to the end of each sprint.

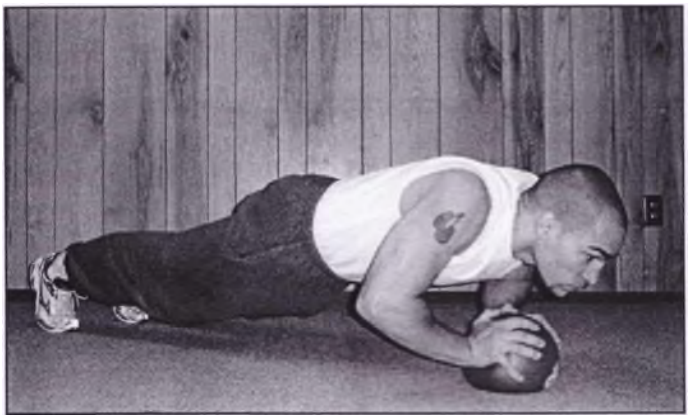
For example:

- Sprint 50 meters
- Perform 20 pushups
- Jog back to the starting line
- Repeat 10 times

This workout would be much less challenging without pushups. The simple addition of pushups turns this sprint workout into a full body conditioner.

Pushups can also be used to develop strength or muscular endurance. Pushups will serve as a strength exercise for beginners. As you gain proficiency with this exercise, the movement will shift from a strength exercise to a strength endurance exercise. An athlete who can perform 100 consecutive pushups displays tremendous strength endurance. This feat however is not a sign of explosive strength or maximal strength. Each strength quality is unique. For this reason, I teach an integrated approach to training. I do however believe that all athletes should be able to perform a minimum of 50 pushups.

To shift your emphasis to the triceps, you can bring the hands in until they touch. The index fingers and thumbs from each hand will touch, forming what looks like a diamond. This exercise is commonly referred to as the **diamond pushup**.



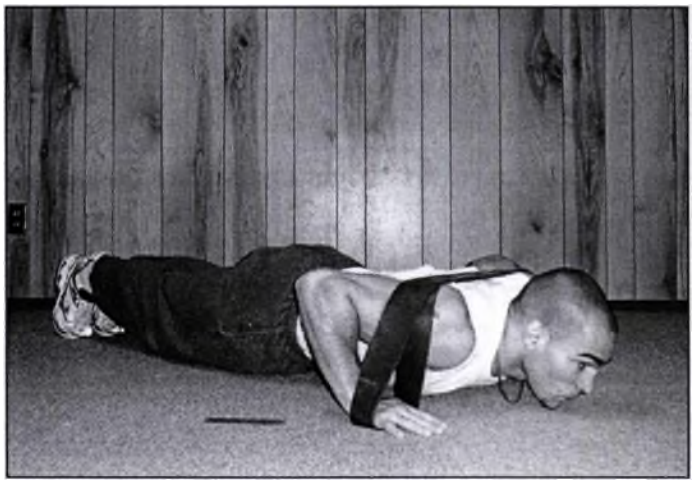
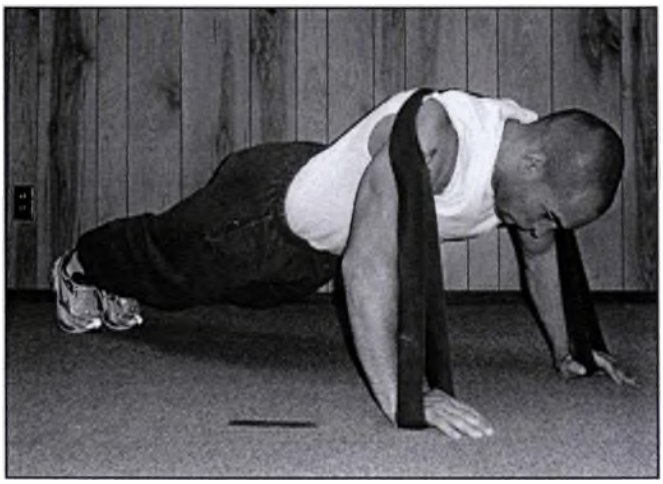
You can intensify this exercise by performing it on top of a medicine ball. This variation will enhance core stabilization.

Another way to increase the difficulty of a pushup is by increasing your range of motion. This can be accomplished by elevating the feet. For an even greater challenge, you can elevate both the hands and feet, by performing pushups between three cement blocks (chairs also work well).

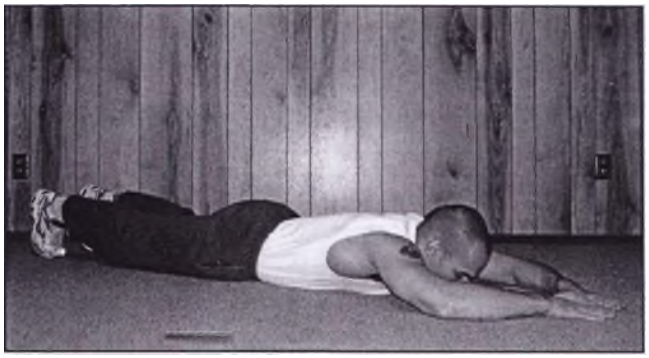
You can also add a weighted vest or backpack to this exercise to reinforce a strength emphasis.

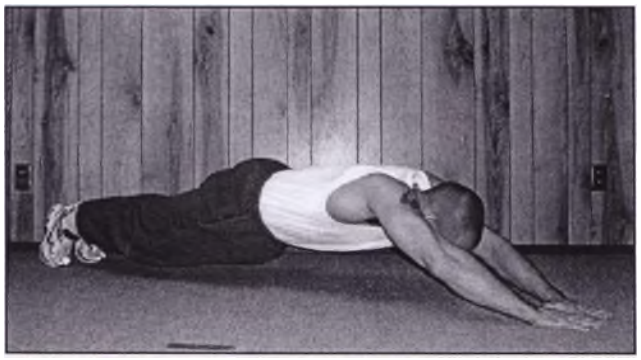
Resistance bands can also be used to enhance the strengthening effect of a standard pushup. In the illustration below, I have demonstrated a pushup with a strong flex band from Jump Stretch Inc.

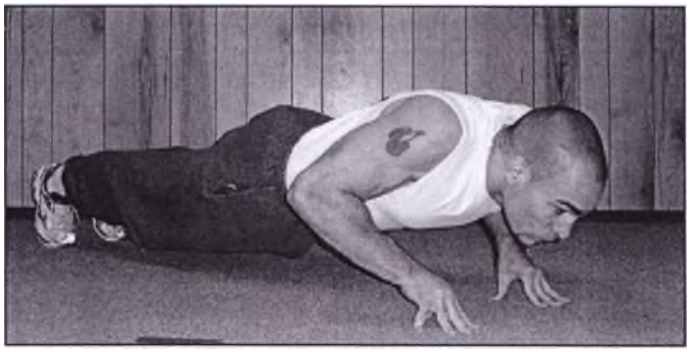
Wrap the band across your back and position the hands inside the loop that forms at each end of the band. As you press upward, the tension on the band will increase. With a traditional pushup, much of your force is expended on the bottom portion of the exercise. Once you begin pressing upward, momentum helps the body achieve full extension. Resistance bands will overcome this limitation, as you must press even harder at the top of the exercise.

Yet another way to intensify the pushup is by extending the arms. The arms **extended pushup** will challenge both the upper body and core. For this variation, you will begin by lying with the arms fully extended. Push until the body is raised (maintain a straight, rigid body). Pause at the top for a few seconds to increase the challenge to the core musculature.







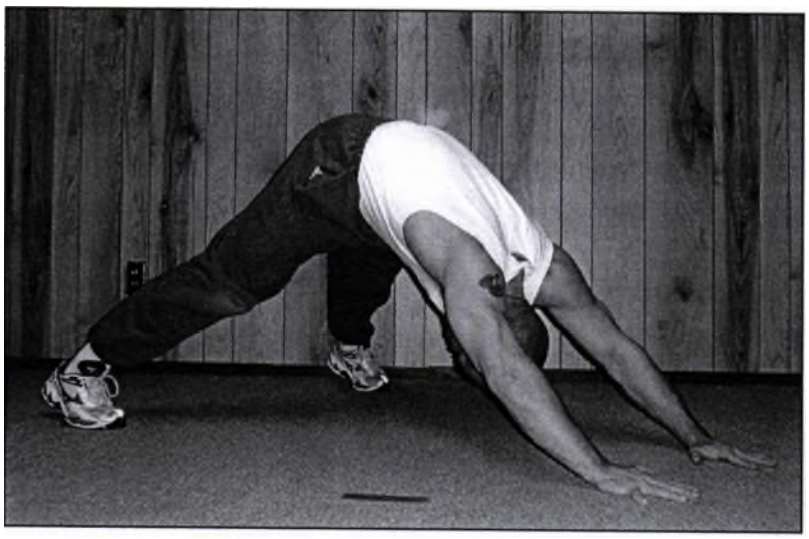
Pushups can also develop the hands and wrists.

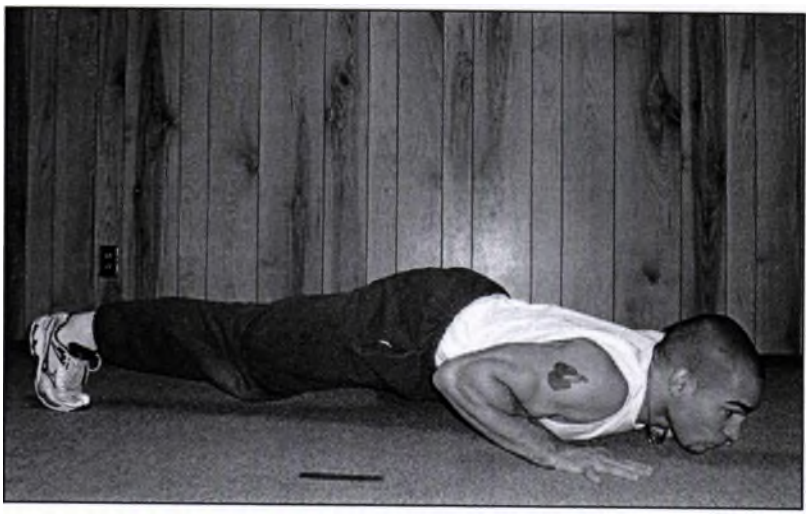
As a young fighter, I suffered from numerous hand injuries. I broke my right hand several times. I was young and impatient, and never took the time to train my hands. These injuries forced me to transition from a fighter to a coach.

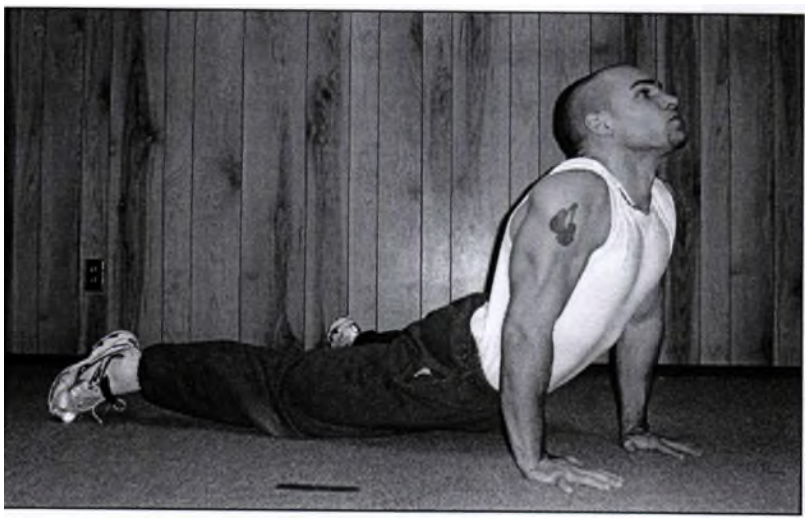
It was not until I was older and wiser that I began performing exercises such as fingertip and knuckle pushups. I strongly believe that these exercises are essential to any fighter who uses hand strikes as part of his offensive arsenal.

Since training with these exercises, and working on grip strength, I have been injury free for several years. I still spar regularly, and my hands feel great.

Knuckle pushups will enhance wrist stability. Without wrist stability, it is common for the hand to cave in on impact. **Fingertip pushups** are excellent for the hands and fingers, and will likely be more difficult at first.







Next is the **divebomber pushup**.

To perform a divebomber, you will begin with the feet spread wide, with your butt pointing up. Your head will look back towards the feet.

Continue by flaring the elbows out as you lower your head (dive down) towards the ground. You will then flatten yourself out as if you were sliding underneath a bar. Your head will travel in the path of the line below.

Finish the movement by driving your head upwards to the ceiling. Return to the starting position by reversing the exact motion.

A similar exercise is the Hindu pushup (or *dand).* This variation does not involve the *rewind motion* from ending to beginning position. Instead, you simply return to the starting position by pushing your hips back while maintaining straight arms.

Those who grew up around combat sports will be familiar with these exercises. They have been around since the beginning of time.

When choosing between dands and divebombers, simply use the variation that you prefer.

Divebombers and dands involve the entire body. I enjoy working high repetitions with each movement. These exercises have stood the test of time for the simple reason that they work.

For the variations that follow, I have used the name *divebomber*, but you can certainly perform these movements as either dands or divebombers.

The close **grip divebomber** will blast the triceps. Simply use the same hand position as that of a diamond pushup. The actual movement (of the divebomber) does not change, only the hand position is altered.

Adding a medicine ball into the mix will intensify this exercise. Perform the exact motion, only this time place your hands on top of a medicine ball.

The medicine ball will increase the stabilization and balance demands of the exercise. Unlike the floor, the ball is not stationary. Your hands must keep the ball in place throughout the exercise. Your focus becomes twofold, stabilizing the body atop the ball, while performing the strength portion of the exercise.

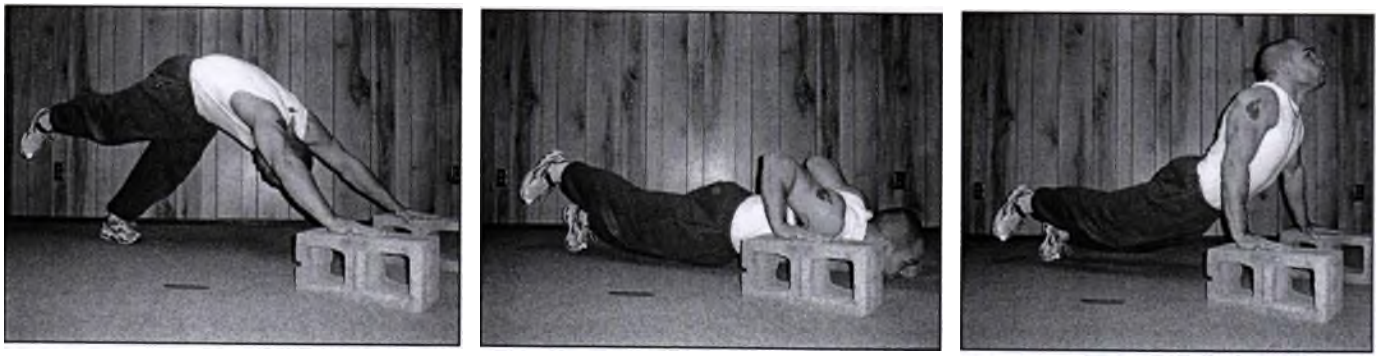
In addition to a medicine ball, cement blocks can be added to these exercises to increase range of motion. The next page includes three cement block variations.

Perform divebombers between two cement blocks to increase range of motion.

Another variation involves elevating the feet from the cement blocks.

A third variation involves elevating one foot off the ground. Working from one foot will place much greater demands on the core.

You should alternate legs between sets. For example, perform one set with the left leg elevated. For your next set, you will elevate the right leg instead.



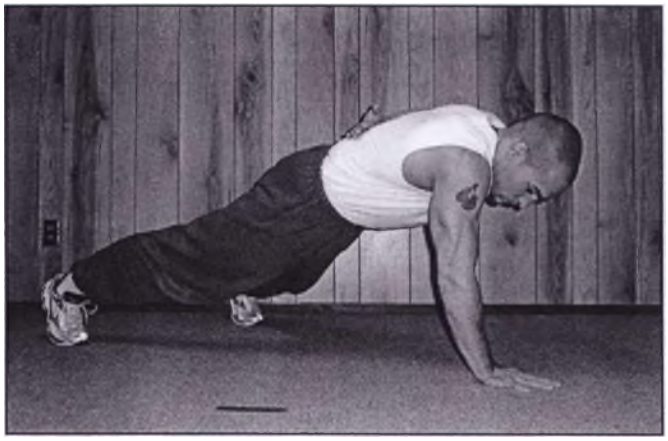
Cement blocks are optional for this variation. You can elevate one leg during any pushup exercise to increase the stabilization demands placed on the body.

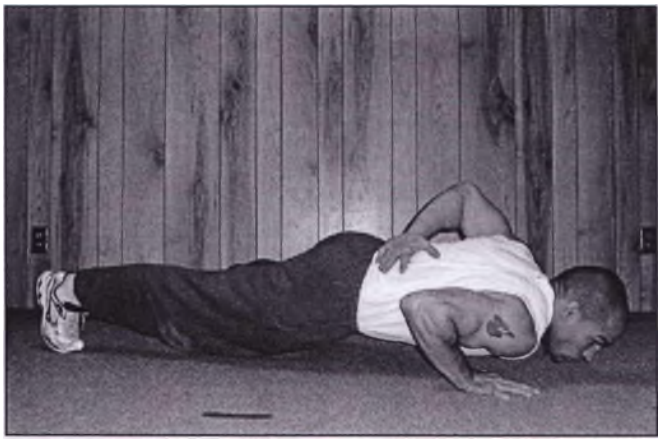
A weighted vest is another useful way to intensify any pushup exercise.

In addition to a weighted vest, you can train one arm at a time to increase the strength demands of the pushup. The one-arm pushup is a tremendous strength builder. You will need a strong upper body and core to perform this movement.

Rest one arm across the back and lower yourself to the floor. Push up with one arm just before the chest touches the ground.

For a greater challenge, you can pause at the bottom of the exercise. Stop one-inch from the floor and hold this position for a few seconds.

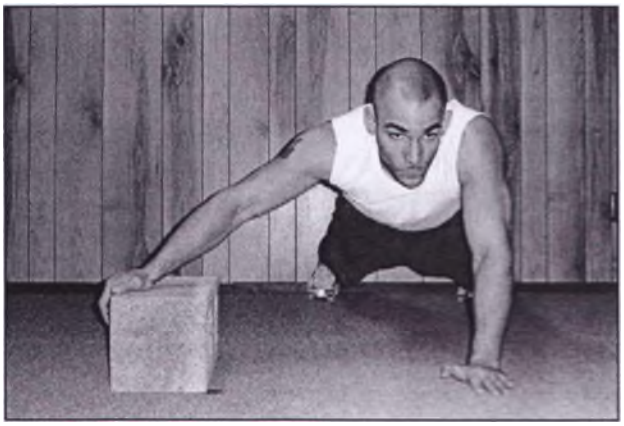


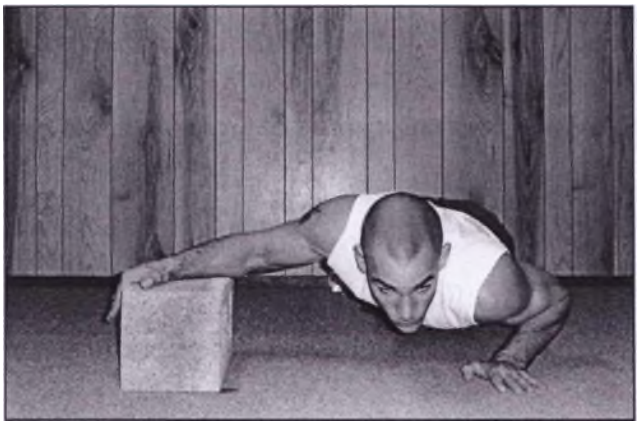


If one-arm pushups are too difficult, you can start with an assisted variation. Place a cement block (or a stack of books) off to one side. Your non-working arm will rest on the block, as opposed to resting behind your back.

From this position, you can perform an assisted one-arm pushup. By placing one hand on a block, the core stabilization demands of the exercise will be reduced. You can also use the elevated arm to push slightly if assistance is needed. With regular practice, you will become less dependent on the block, eventually capable of unassisted one-arm pushups.

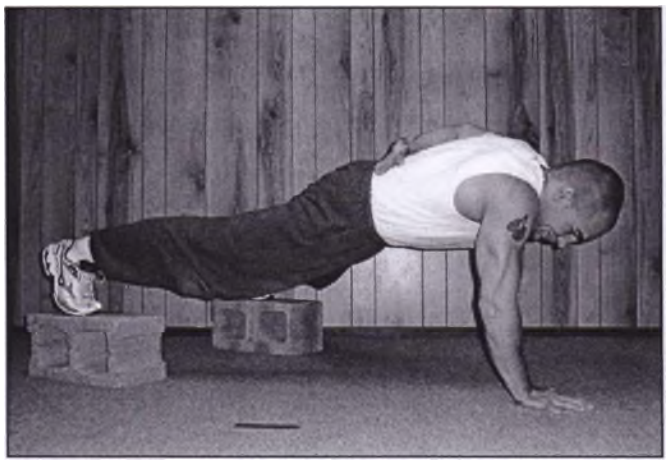
Practice is the mother of all skills.

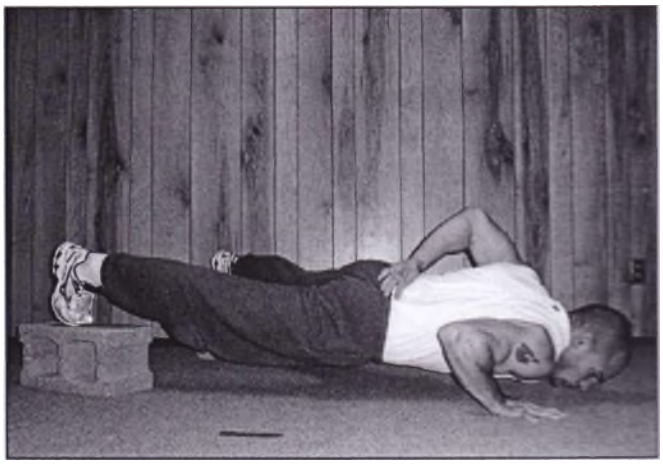




Eventually, you can introduce additional progressions to increase the difficulty of the one-arm pushup. For example, you can elevate the feet from blocks to increase range of motion.

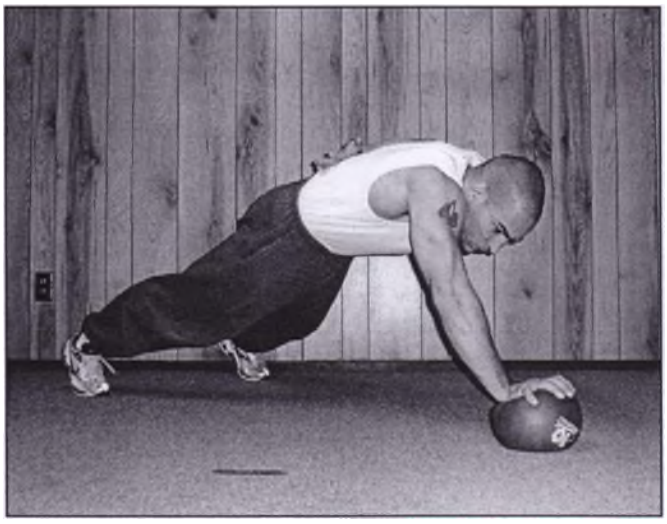
Who said that you needed to bench press to develop the upper body?

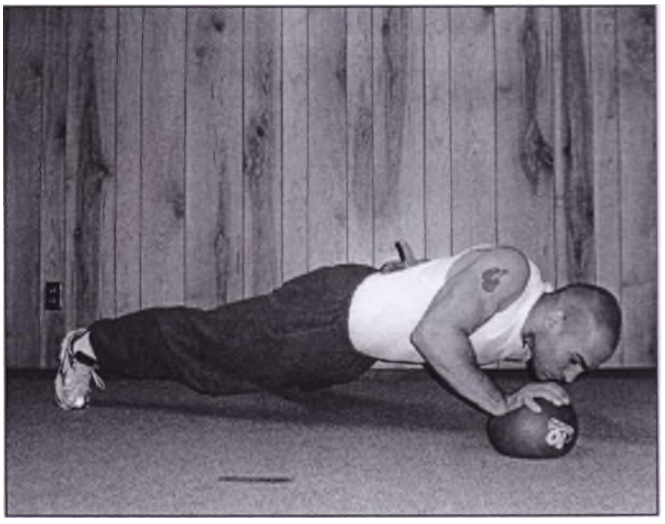




A medicine ball can also be added to the exercise. You will need considerable core strength to perform one-arm pushups from a medicine ball. The ball will wobble back and forth throughout the exercise, placing considerable stress on the core.

The entire body will remain tense throughout this exercise. I highly recommend this variation.

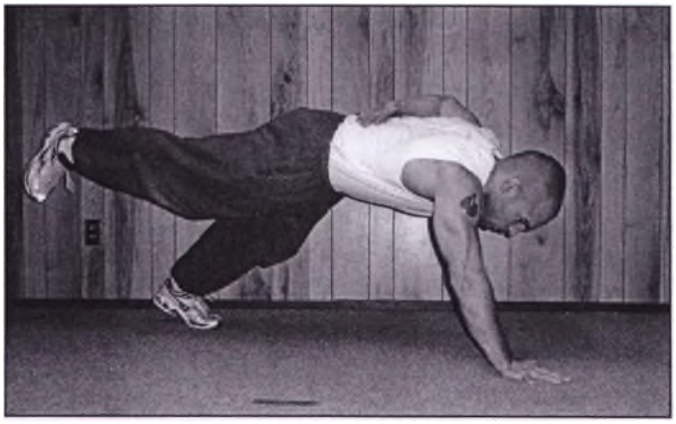


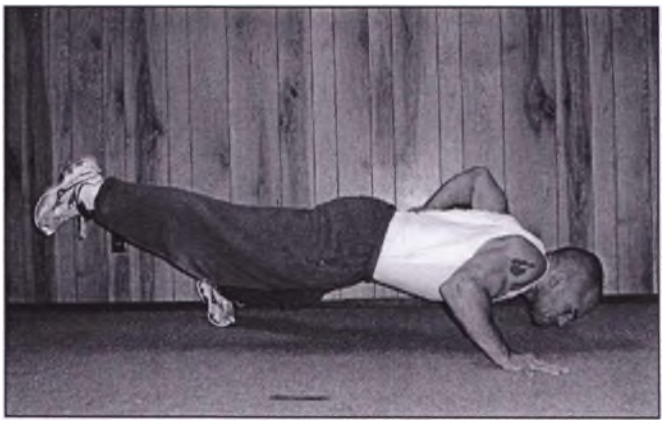


Lifting one foot off the floor is another means of progression for the one-arm pushup. This variation was seen earlier with a divebomber pushup.

A one-arm/one-leg pushup will require strength and balance. The core will remain tense as it works to stabilize the body throughout the movement. This is an excellent variation for those individuals who are no longer challenged by the traditional one-arm pushup.

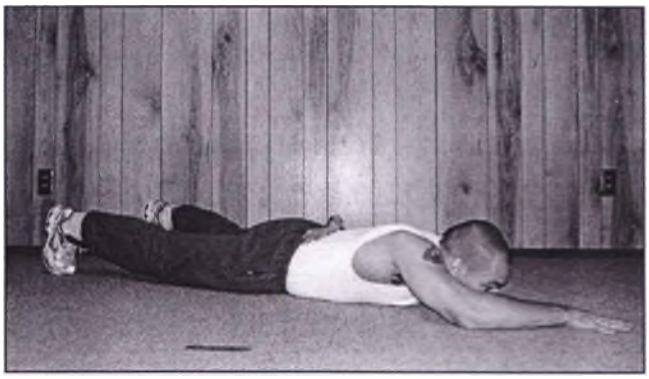
When performing this variation, you will assume an opposite arm and leg position. For example, the right arm will push, while the left leg remains on the floor. As with all one-arm exercises, be sure to work both sides evenly.

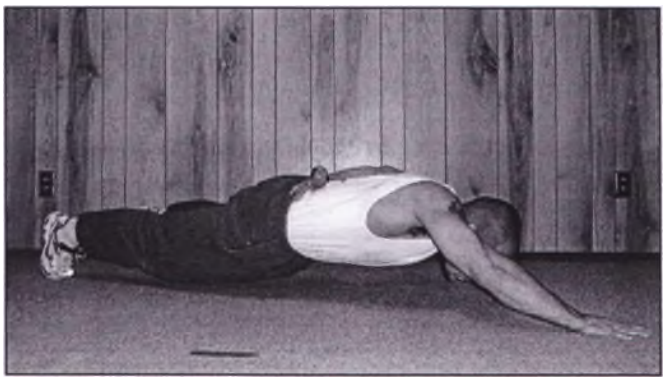




Another challenging one-arm variation can be performed from the extended arm pushup position (seen on page 61). This time however you will press with only one arm at a time.

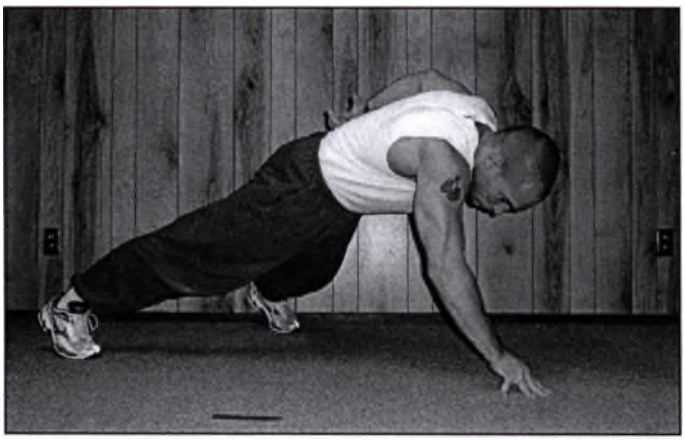
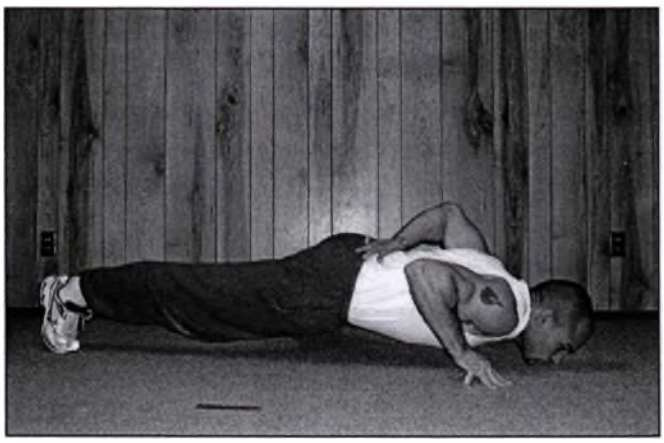
To target the core, you can hold the upright position for a few seconds before lowering yourself towards the ground. You can also switch back and forth between your left and right arm, without coming down between repetitions. Hold yourself upright with the left hand for a few seconds, then shuffle to the right hand without lowering yourself to the ground.





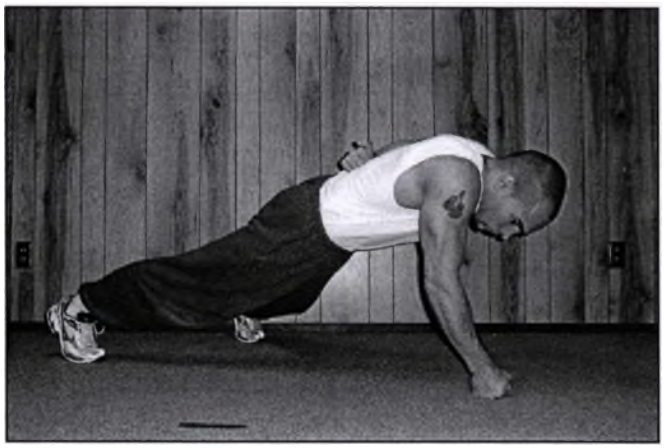
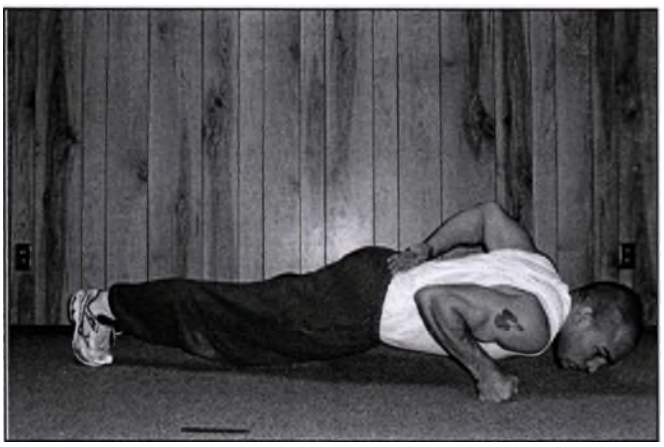
If you are a combat athlete, you can also use one-arm pushup variations to strengthen the hands.

The one-arm pushup from the fingertips will require strong fingers and hands. This is a useful exercise to introduce when traditional fingertip pushups no longer offer a challenge.

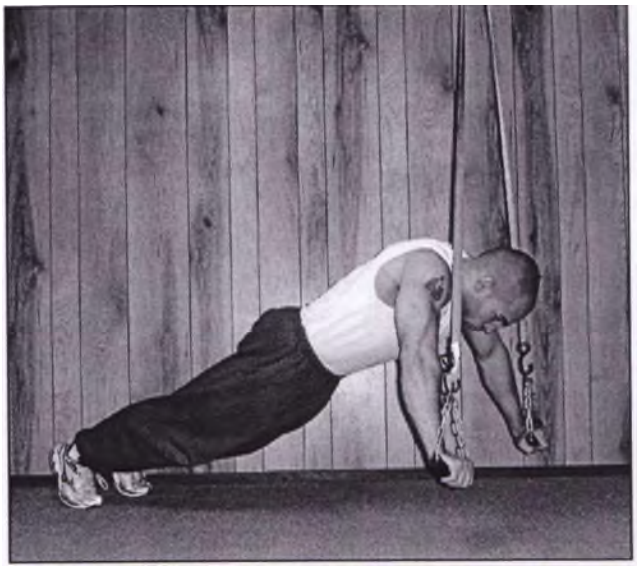
The one-arm pushup can also be performed from the knuckles. This variation will develop tremendous wrist stability.

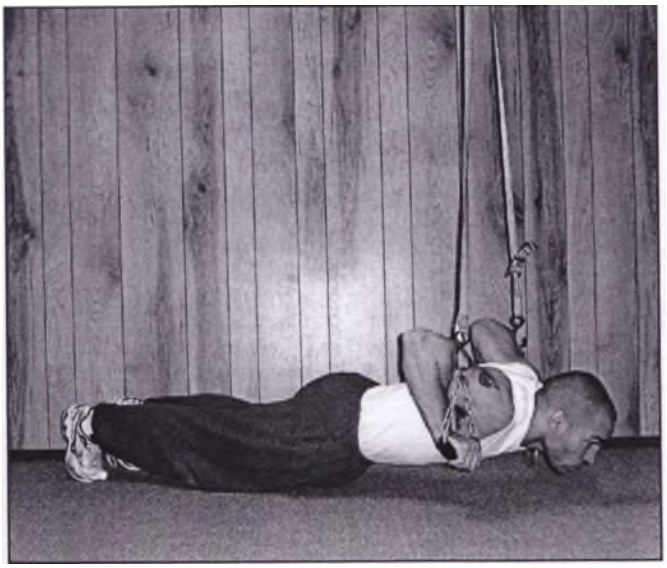
I recommend these variations to all advanced combat athletes.

Homemade rings can also be used to perform **ring pushups**. Adjust the straps so the body is close to the ground on the lower portion of the exercise. The rings will create a greater need for core stabilization.

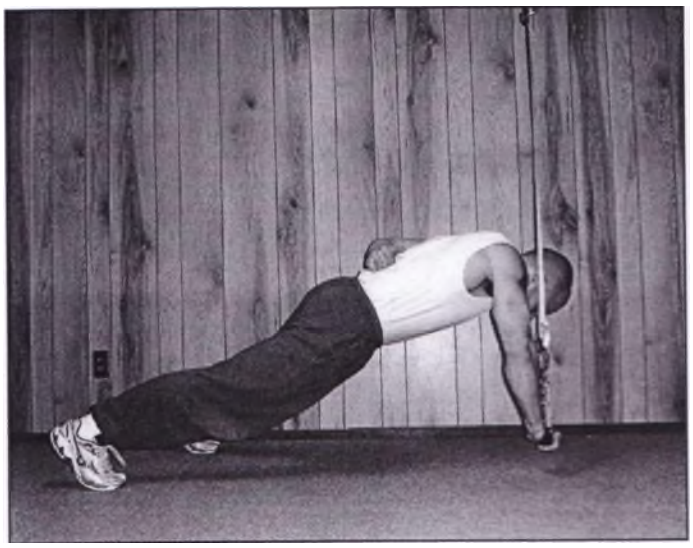
The feet can also be elevated for an added challenge.





One-arm pushups can also be performed from rings. Simply tie the tow strap to an overhead attachment (ex. swing hanger) so only one ring hangs from the ceiling. Grab the single ring in one hand and perform a full range one-arm pushup.

This variation is very challenging. The instability of the ring will force the core to work hard to maintain balance.



To conclude the discussion of one-arm pushups, I have saved the best for last. The **one-arm divebomber** is the most difficult exercise of the group. Do not attempt this exercise until you become very proficient with traditional one-arm pushups. The one-arm divebomber will be performed identically to the traditional divebomber. The only difference is that you will use one hand at a time.

To successfully perform this exercise, you must remain tense, without hindering the natural flow of the exercise. Divebombers must be performed with fluidity. You should not perform this exercise in slow motion. You need to dive down and press up with a steady rhythm.

When first attempting this exercise, I recommend starting with a one-arm dand. You will not need to perform the negative portion of the divebomber. Become proficient with the one-arm dand before trying the full divebomber.

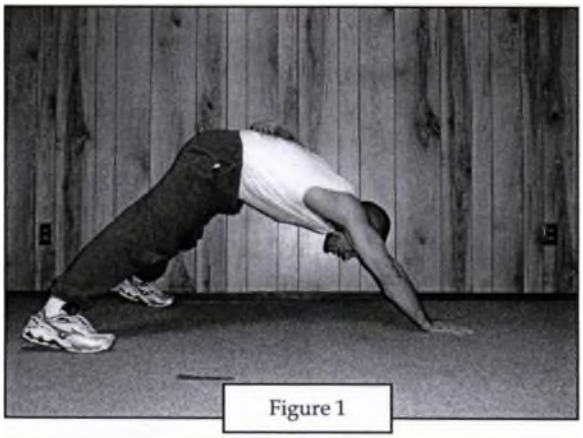


Figure 1

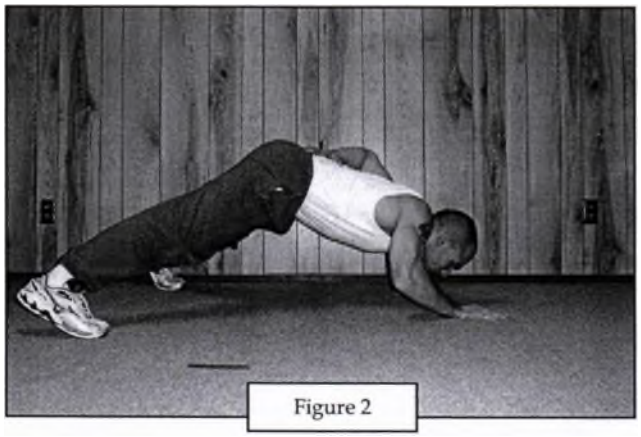


Figure 2

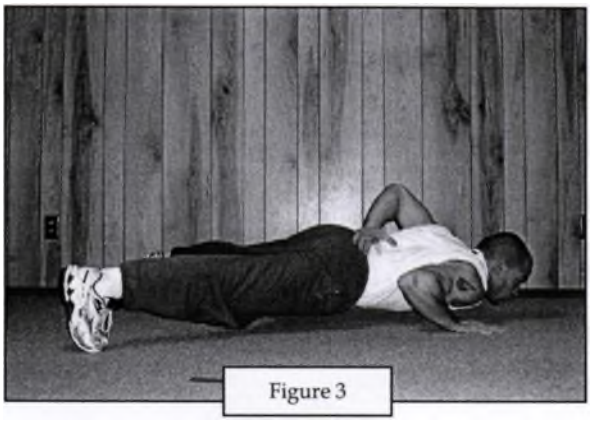


Figure 3

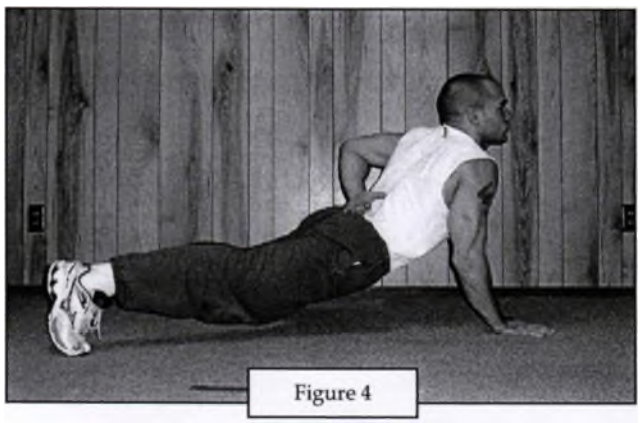


Figure 4

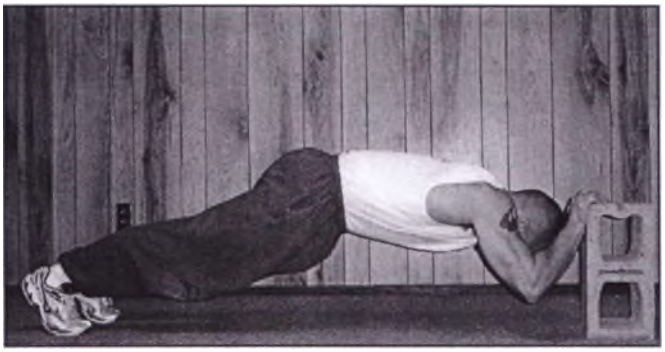
Supplemental Exercises

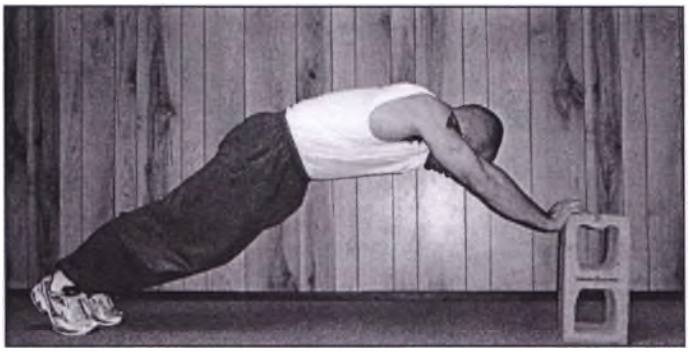
If you find yourself struggling with the one-arm pushup exercises, it may be a sign that you lack strength in the triceps. Strong triceps are necessary for each of the one-arm pushup variations. Many athletes develop significant strength endurance by working with traditional pushups. When they try one-arm pushups however, they are unable to complete the movement. One of the primary reasons for this failure is weak triceps.

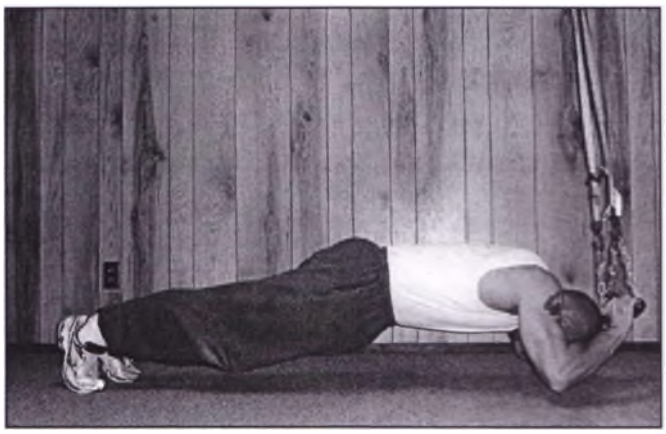
In addition to the diamond pushups and close grip divebombers shown earlier, dips and bodyweight triceps extensions are both tremendous triceps developers.

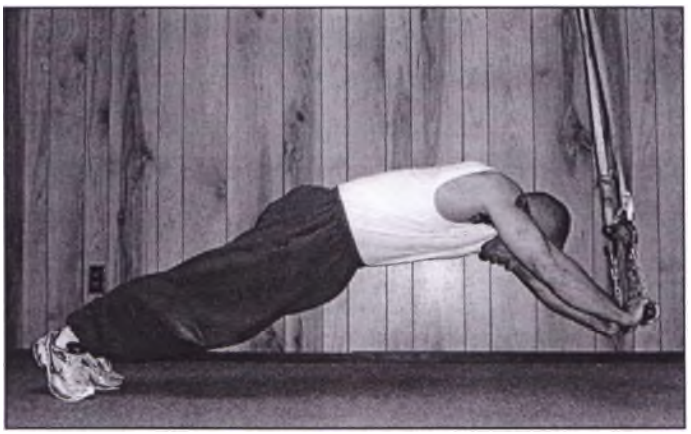
The **bodyweight triceps extension** is perhaps the best exercise that you will find for the triceps. Below, I have demonstrated the exercise on a cement block and pair of rings. A bench or chair could also be used in place of the cement block. The ring variation is more difficult due to the increased need for stability.

Begin with the arms bent and the head down. Extend each arm at the elbow, while maintaining a straight back. The arms will initiate and power the exercise. You should not be pressing with the chest. Push down with the hands, *into* the cement block or rings to initiate the movement.



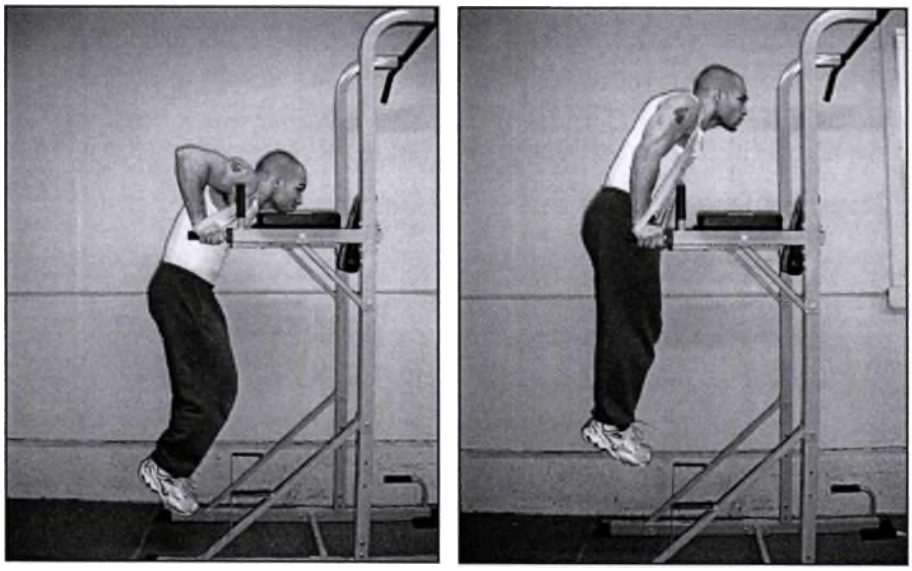




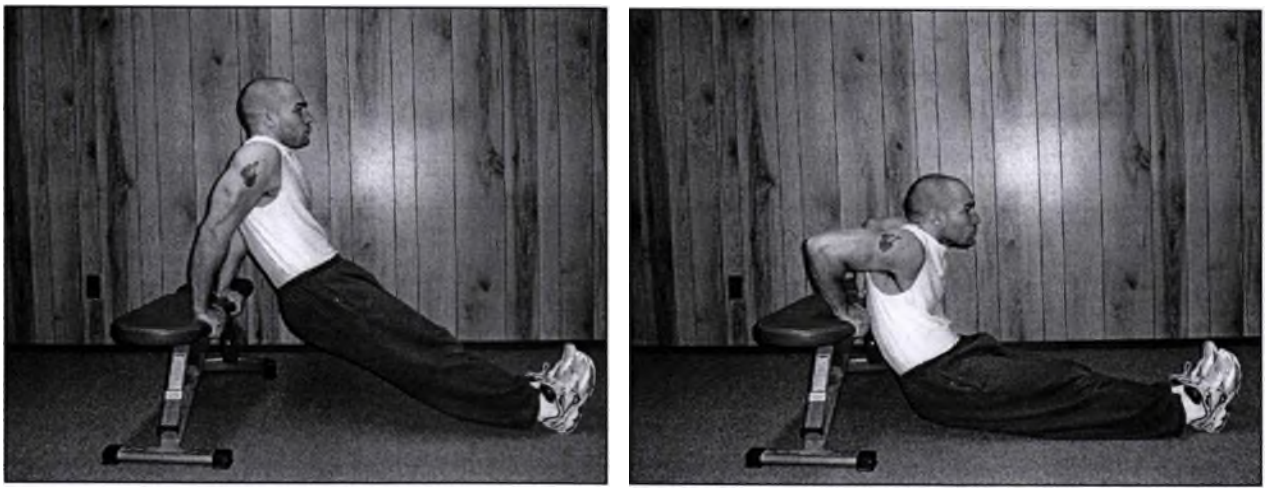


Dips are also excellent for the triceps, as well as the chest and shoulders. You can perform dips from a power tower (as illustrated below), a pair of gymnastic rings, or even from a pair of sturdy chairs. For added resistance, you can wear a weighted vest, attach a dip belt (seen earlier with pull-ups), or attach a resistance band. Below, you can see how I have looped a resistance band around my upper back to increase the difficulty of the bodyweight dip.

When performing dips, keep the elbows close to the body. Lower the body until you feel a slight stretch in the shoulders. Press all the way up, until achieving full extension. Lower yourself and continue.



If full dips are too difficult, you can start with a **bench dip** instead. With the hands elevated from a bench (or chair), slowly lower the body toward the floor by bending at the elbows. The arms will form a 90-degree angle at the bottom of the movement. From this position, press upward until the arms are straightened. To increase the difficulty, you can elevate the feet from another chair or bench.



Resistance bands can also be used to perform triceps extensions from a bench. This exercise is commonly performed with a barbell.

To perform the resistance band version, you will lie on a flat bench with a band looped behind your back. Grip the band with a slightly narrower then shoulder width position. Start with the band just above the face. From here, use the triceps to extend the band. Only the forearms will move throughout the exercise.

A high-tension band will make this a very difficult exercise.

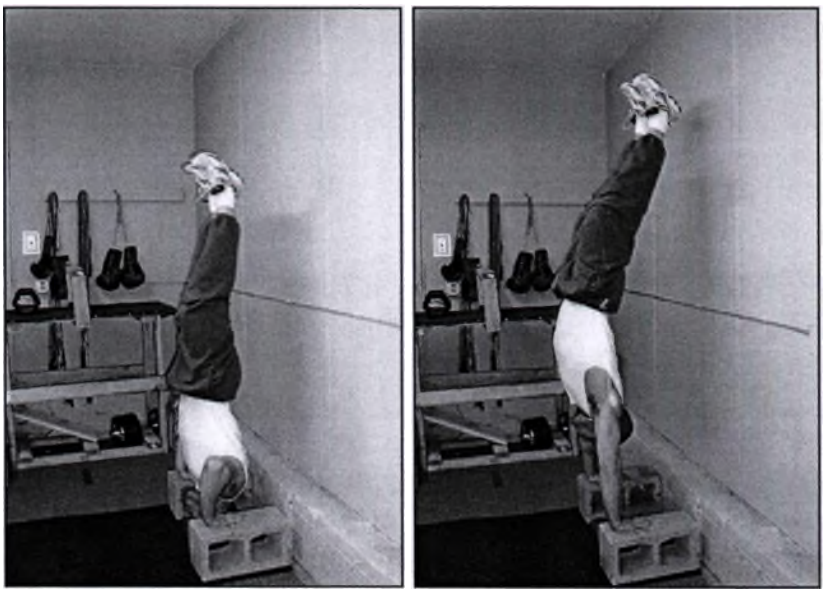
Moving right along, let's shift gears to another highly effective *pushing* exercise, the **handstand pushup**. Handstand pushups are one of my favorite movements. This exercise will develop powerful shoulders, as well as balance and kinesthetic awareness.

There are several progressions available with this exercise. If the exercise is new to you, start by pressing from the floor. You will assume a handstand position against the wall. You must then press upward, until the arms are extended. You can place a rubber mat under the head for comfort.

When first working with this exercise, you should use the wall to help guide your feet. It may even be useful to wear a pair of socks (no shoes). You will be able to focus solely on pressing upward, without concerning yourself with balance. The socks will glide up the wall.

Eventually, you will become less reliant on the wall. You can begin training the exercise with shoes, as it will minimize your ability to use the wall for assistance. A pair of sneakers will not slide up the wall, forcing you to free your feet from its surface.

As your strength improves, you can increase the range of motion by performing this exercise between cement blocks or sturdy chairs. Eventually, you will develop the ability to perform extended range handstand pushups without the need for wall support, as illustrated below.



I developed the ability to perform freestanding handstand pushups by simply remaining consistent with my efforts. I did not train specifically for this skill. I have used handstand pushups for many years now. Over this time, I became less and less dependent on the wall for support. The time came when I noticed myself pressing up and then down without touching the wall.

I cannot say however that I woke up the next morning and was a better athlete. I do not believe that athletes need the ability to perform freestanding handstand pushups. For example, a baseball player will not be any better at hitting a curveball once he can perform the exercise without wall support.

Do not become obsessed with freestanding handstand pushups. One of the problems with bodyweight exercise is that many individuals spend too much

time trying to achieve a particular movement just for the sake of performing the exercise. The last time I checked, handstand pushups are not an event in the Olympic games.

While I do enjoy challenging myself with more difficult exercises, I do not make the mistake of focusing all of my efforts on one particular movement. I have become proficient with many bodyweight exercises simply because I am consistent with my efforts. Do not obsess over achieving one particular exercise. If you are consistent and diligent, you will achieve your goals in time. As John Quincy Adams once said,

"Patience and perseverance have a magical effect before which difficulties disappear and obstacles vanish."

Consider the following scenario. I spend a lot of time involved in the sport of boxing. If I had to choose between training a boxer who had a vicious left hook or one who could walk on his hands, I would prefer to train the athlete with the powerful hook. As a fighter, your training should not resemble that of a circus act. You already have a significant skill-training requirement. You can gain a good deal of strength by performing a handstand pushup with the feet against the wall. If this variation becomes easy, you can add a weighted vest to increase the strength demands of the exercise.

This information may seem a bit paradoxical, considering how I just illustrated a freestanding handstand pushup. This is not my intention however. I simply wish to caution you against obsessing over one exercise. With a consistent effort, you will eventually overcome all of your obstacles.

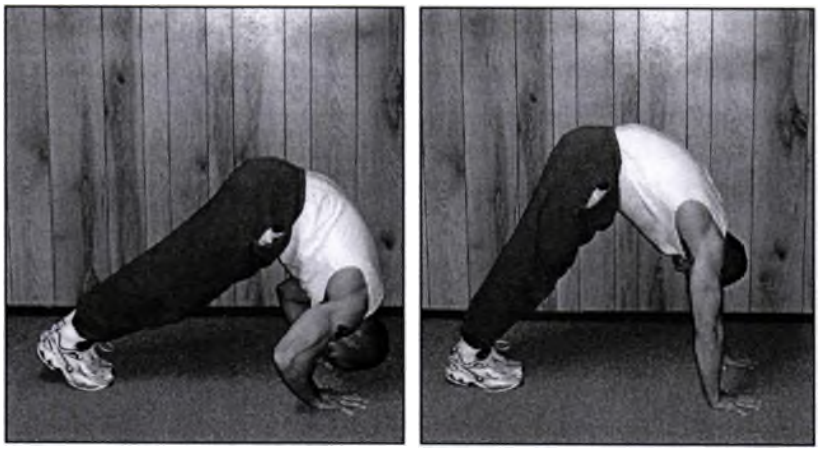
Ross, I am unable to perform handstand pushups. Are there other movements that I can perform to prepare for the exercise?

One of the most important aspects of the handstand pushup is the ability to remain confident and comfortable from the upside down position. You may feel uncomfortable from this position, which inhibits your ability to focus on the strength portion of the exercise.

If you have difficulty pressing from the ground, I suggest starting from the upright position. Kick your feet overhead with the arms extended and hold the upright position with the feet against the wall. You can place a pillow under the head for comfort if you wish.

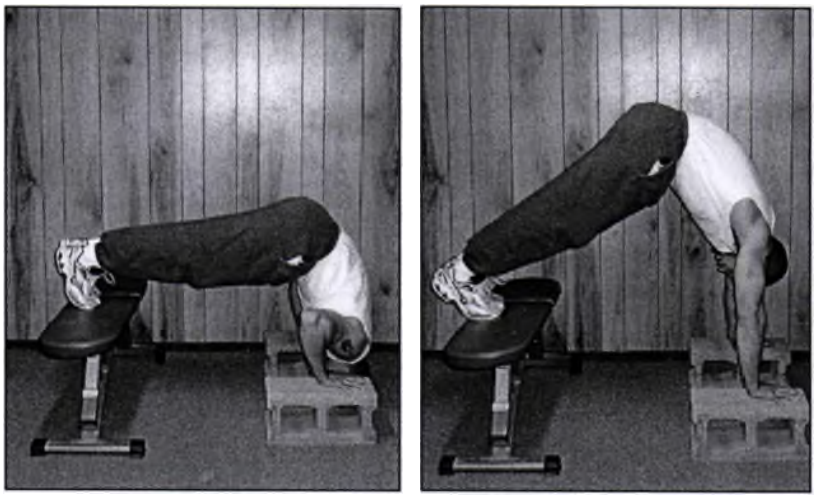
If you lose control of the position, push off the wall with your feet. The hands will remain stationary as the feet return to the ground. Consistent practice with handstand holds will help you gain confidence in this position.

You can also perform a pike press to develop the strength necessary for the handstand pushup.



The **pike press** can be performed with the feet on the ground, or with the feet elevated as shown below.

The legs remain straight as you press up and down. The hips will be flexed at approximately a 90-degree angle.



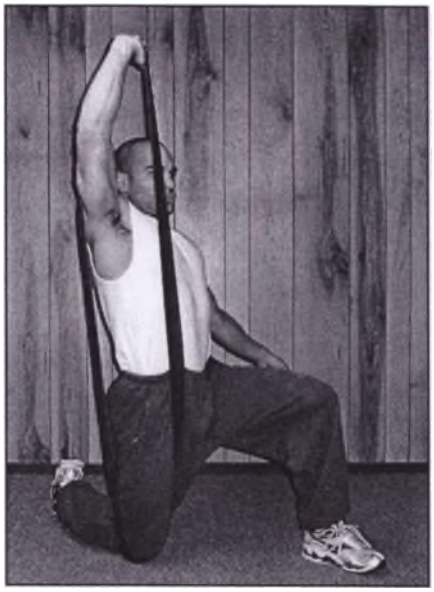
As you gain strength with the pike press, you can extend the range of motion by elevating the feet from a bench or blocks. The higher that you elevate the feet, the closer you will be to a handstand pushup.

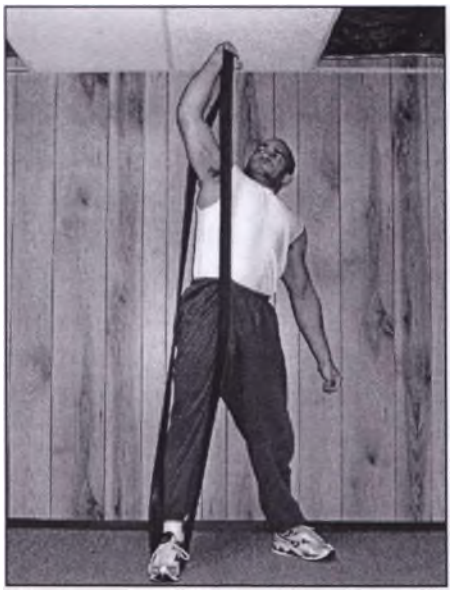
The hands can also be elevated from blocks to increase range of motion.

A weighted vest could also be incorporated into the pike press. By raising the feet, elevating the hands from blocks, and wearing a weighted vest, you will have a highly effective alternative to handstand pushups. This variation will come in handy if you train with low ceilings and do not have the clearance for a handstand pushup.

In addition to the pike press, you can build strength in the shoulders through isometric training. The isometric overhead press from page 120 is an effective shoulder developer. You can train multiple joint angles to develop strength throughout the entire range of motion required for the handstand pushup.

Resistance bands can also be used to train the shoulders. You can perform an **overhead press** from the knees, or from the standing position. The standing band press is obviously much more difficult, as you will be forced to work against much more tension.





With regular practice holding the handstand position, coupled with assistance exercises such as the pike press and resistance band press, you will eventually develop the ability to perform full handstand pushups.

To conclude this chapter, we will shift gears and focus on an often neglected aspect of bodyweight training. Many trainers overlook the value of *pushups* for the development of explosive qualities such as speed strength, explosive strength, and reactive strength. Many believe pushups are only useful for strength endurance. Others focus more attention to maximal strength with strenuous variations such as the one-arm pushup.

However, when you start to speak of *explosive training* techniques, pushups are typically forgotten in place of other methods such as Olympic lifting. You will rarely see a trainer recommend a pushup protocol to develop explosive strength qualities.

As an athlete and coach, I have worked with almost every training modality in existence. I have lifted heavy weights, using exercises such as power cleans and power snatches. Although I still believe these methods are useful, I do not believe they are as effective as many bodyweight exercises.

Unfortunately, many trainers wrongly prescribe plyometrics to individuals who are not physically prepared to handle the intensity of the movements. Whenever you hear words such as *plyometric* or *ballistic,* you are certain to have a fair share of critics who oppose such methods.

Yuri Verkhoshansky is considered the father of modern day plyometrics. Unfortunately, many trainers have misinterpreted his highly effective *shock method* of training. The naysayers to these methods do not understand the original concepts developed by Verkhoshansky.

Critics who claim plyometrics are dangerous overlook the fact that almost all sporting events involve *explosive* actions. Whether it is running, jumping, kicking, punching, tackling, or wrestling, you can be sure that the athletes will generate as much force as possible, utilizing *explosive strength* qualities repeatedly throughout each competition.

According to the critics, it is acceptable to jump in a basketball game, but unacceptable to jump as part of a training program. It does not take a rocket scientist to understand that this *so-called logic* does not make sense.

On the other side, those who are in favor of plyometrics often incorrectly use the drills. These individuals underestimate the intensity of the exercises. Make no mistake about it, plyometric training is very stressful to the body. I have seen coaches instruct athletes to perform plyometric drills to complete failure. These individuals do more harm than good with such a protocol.

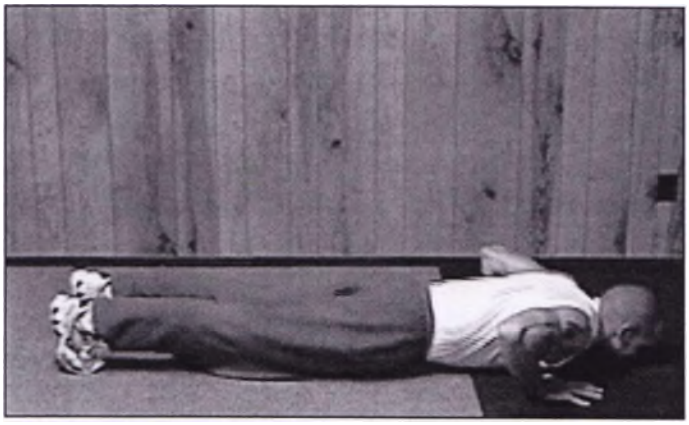
If used correctly, plyometrics are extremely valuable. If or when an injury occurs, the training method is often blamed, when the real cause of injury originates from the trainer's incompetence.

If you choose to include the exercises that follow, you must first develop a solid foundation. An individual who is not adequately prepared has no business performing these exercises. In my opinion, you should be able to perform at least 40 pushups before considering these movements. Also, please note that these drills should not be performed more than two or three days per week.

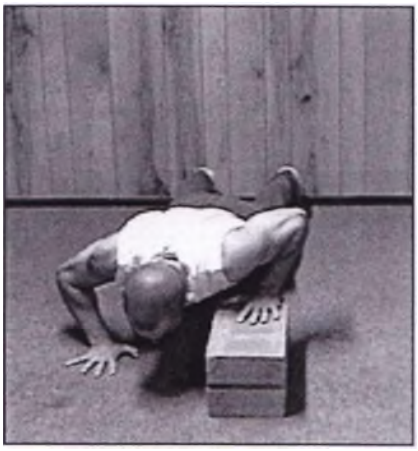
If used correctly, the exercises that follow are extremely effective in developing explosive strength qualities.

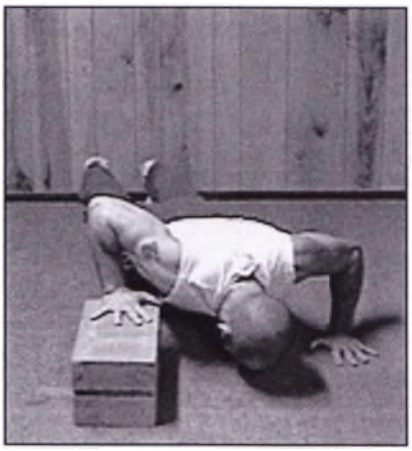
To begin, we will start with a traditional plyometric pushup. This exercise should be performed with a rapid cadence. You will explode upward, removing the hands from the ground. Your goal is to maximize airtime, while minimizing ground contact. A handclap may be performed in the air if you wish. As soon as you hit the ground, reverse the motion by exploding back into the air.

I have used a thin rubber mat underneath my hands to absorb some of the shock, which would otherwise be absorbed by a cement floor. I use an anti-fatigue mat for this purpose. The mat was purchased from a local hardware store.



Power Overs are extremely useful for the development of reactive strength. Below, I have illustrated this exercise with a cement block. A medicine ball could also be used. Begin with one hand elevated and one hand on the floor. Thrust the torso up as if you were performing a pushup. Your torso will propel into the air. The hand that started on the cement block will head to the floor, while the hand from the floor is thrust upward to the block. For a split second, the hand that starts on the block will be airborne heading down, while the hand from the floor is heading up towards the block. As soon as your hand reaches the floor, quickly explode back up, reversing the motion. Your hands will thrust side to side, from the floor to the block.





Two blocks can also be used for several explosive pushup exercises. Below, I have illustrated one variation of the **depth plyometric pushup** *(Variation A).* This variation focuses on reactive strength development. You will start with the hands positioned between two blocks. The hands then quickly explode up to the blocks. Do not lower yourself all the way to the ground. As you can see in Figure 1, the arms will remain only partially bent. From here, the hands jump up to the blocks. Both the blocks and ground should be thought of as red-hot surfaces. Only touch these surfaces for a split second. The hands quickly move from the floor to the blocks, and then immediately from the blocks to the floor. This rapid back and forth action takes place until the set is complete.

In Figure 3, you can see that once again the arms are not fully bent. Upon landing on the blocks, the hands immediately return to the ground. You can see how the hands move laterally off the blocks in Figure 4. You are not pushing up with maximum force. Unlike the basic plyometric pushup on page 79, you are not looking to maximize airtime. You are actually looking to minimize airtime. Think of *fast hands* when performing this exercise. The hands move quickly up and down throughout the movement.

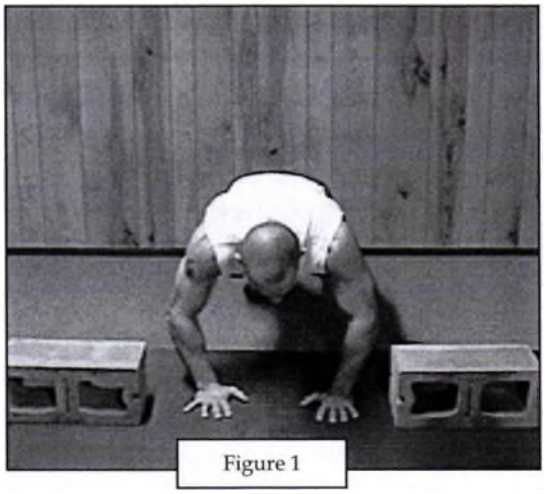


Figure 1

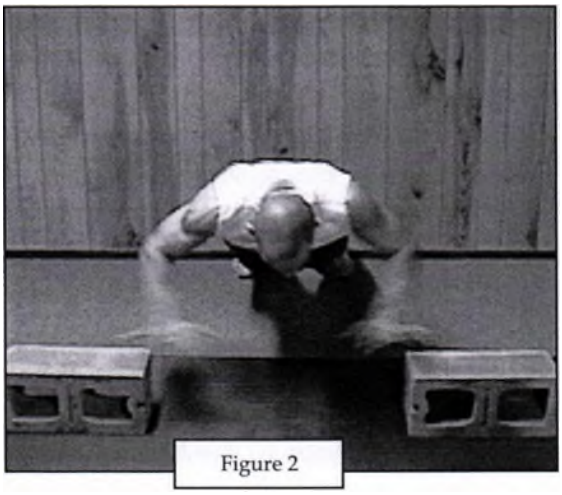


Figure 2

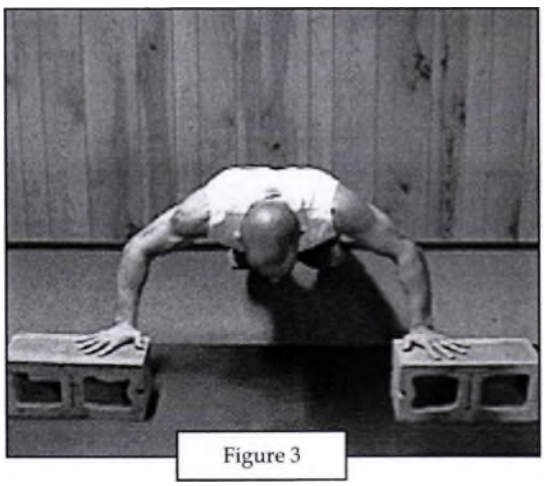


Figure 3

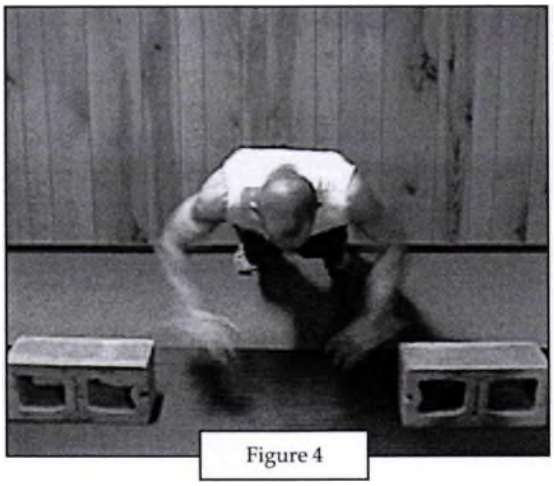


Figure 4

Blocks can also be used for another depth plyometric pushup (*Variation B*). This variation focuses more on explosive strength, as opposed to reactive strength. The exercise below is performed similarly to the plyometric pushup seen on page 79. The difference is that the blocks extend the range of motion. The similarity is that you must press up with maximum force, looking to generate as much airtime as possible.

From Figure 1, you drop down and perform a full pushup (all the way down, as seen in Figure 2), maximally exploding into the air in Figure 3. You then land between the blocks (Figure 4), once again exploding back into the air (Figure 5). You will land on the blocks (Figure 6), and continue.

This variation is more stressful than the traditional plyometric pushup. The blocks allow more height to be achieved in Figure 3. This exercise is not intended for novice athletes.

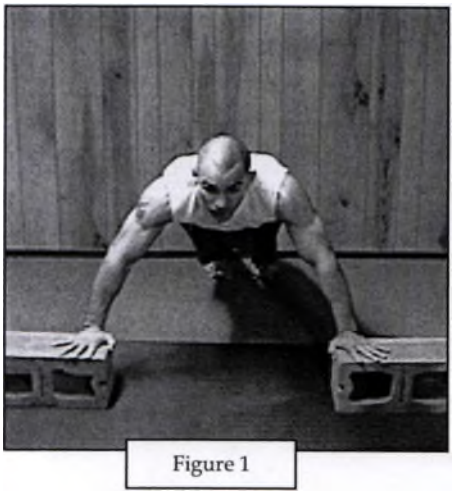


Figure 1

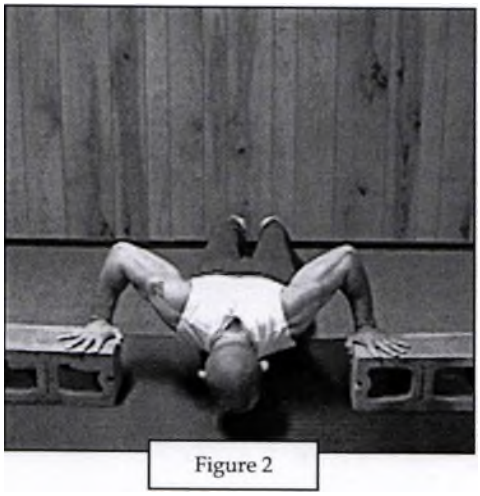


Figure 2

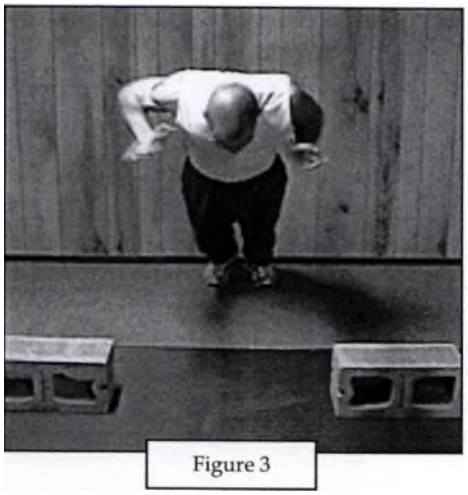


Figure 3

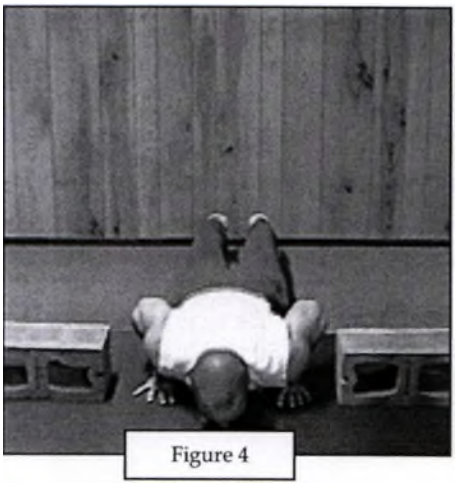


Figure 4

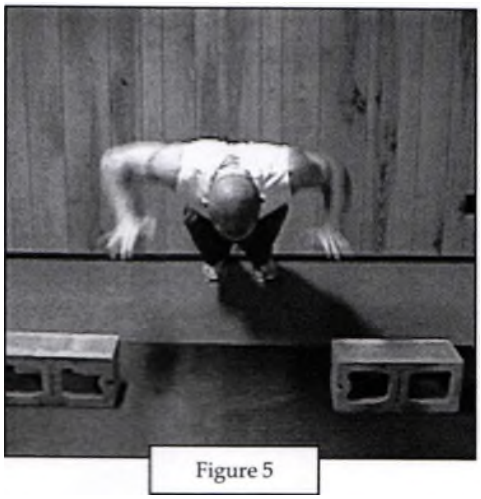


Figure 5

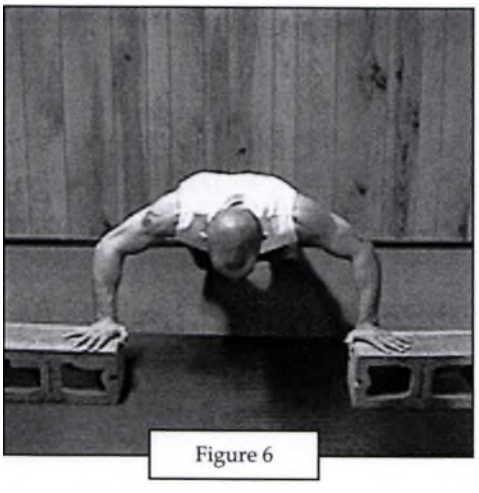


Figure 6

More advanced athletes can increase the intensity of the depth plyometric pushup by raising the height of the blocks. Below, I have demonstrated *Variation B* (page 81) from two blocks. *Variation A* could also be performed with two blocks, but is more difficult as you must achieve a significant amount of height with minimal bend in the arms.

Variation B is easier, as you are performing a full range of motion with the pushup (all the way up and down). It is easier to generate the height necessary to land on the blocks. This variation is also more stressful however, as you will be forced to land from a higher position (Figure 2 to Figure 3).

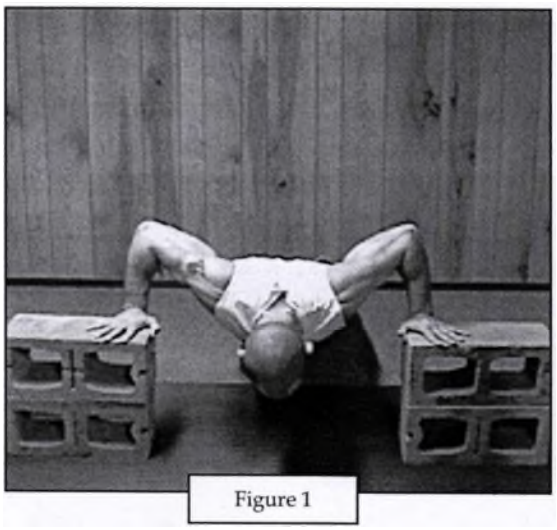


Figure 1

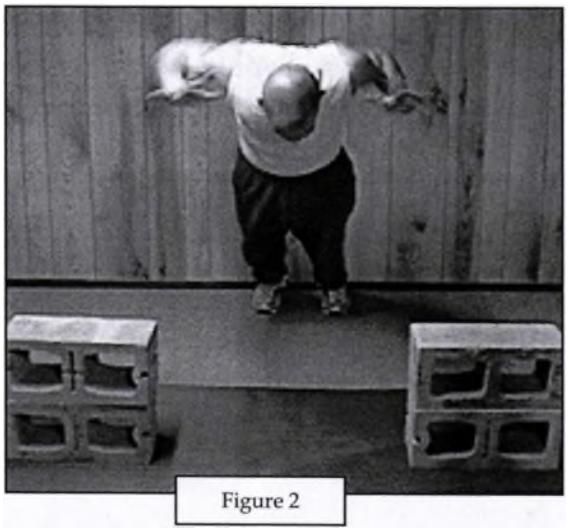


Figure 2

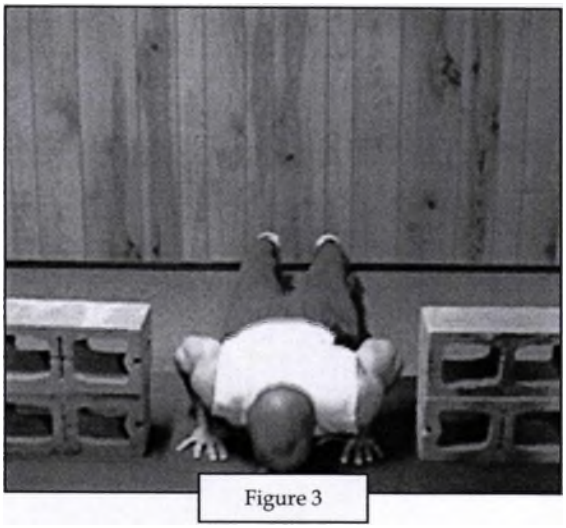


Figure 3

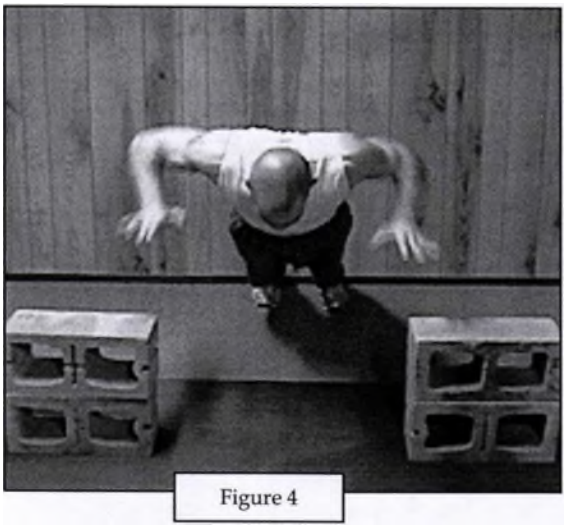
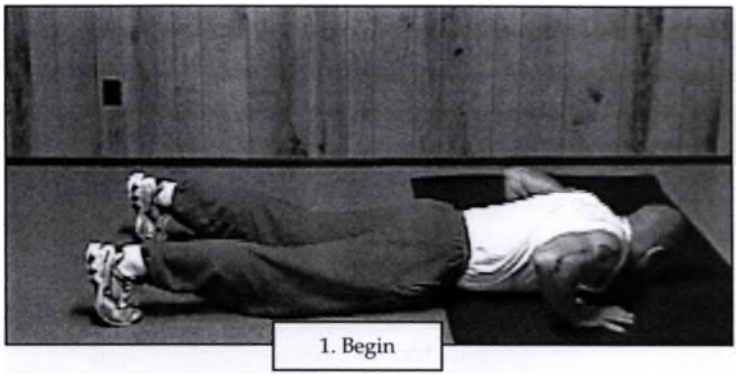
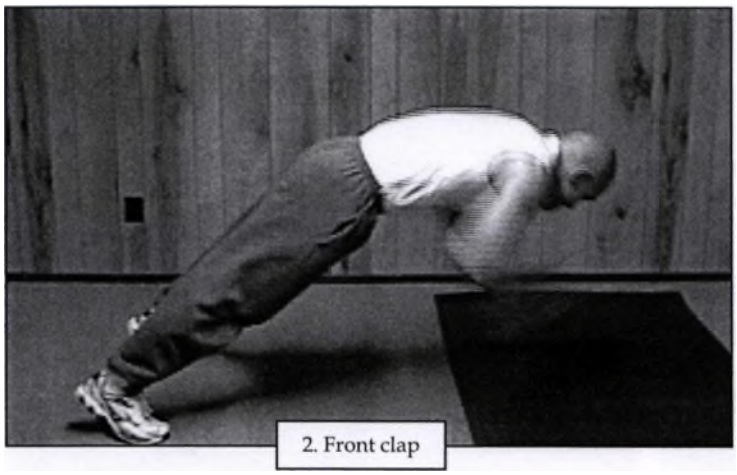
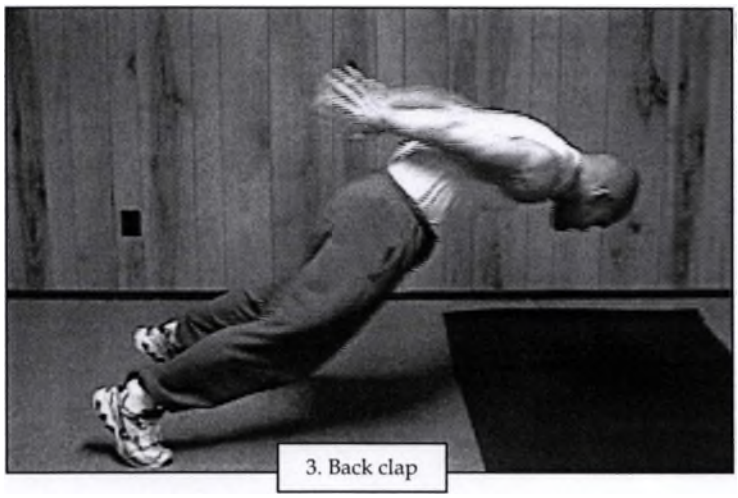
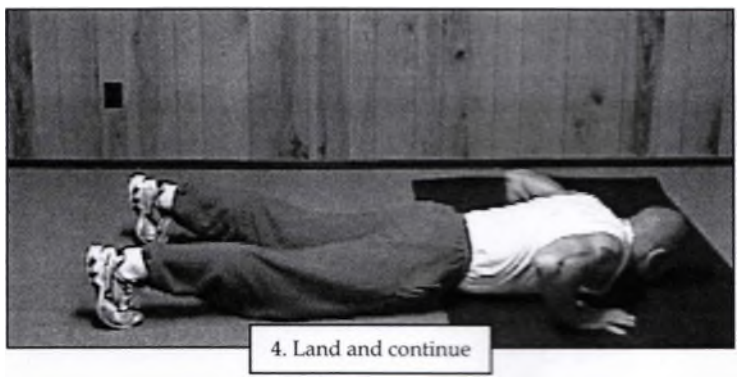


Figure 4









Handclaps can also be used to add a challenging and effective feature to the plyometric pushup.

There are several options. These variations offer an effective way to challenge athletes. There is nothing like competition between training partners to increase motivation.

The illustrations from this page show a **front-to-back handclap pushup**.

You start by exploding into the air, clapping the hands in front of the body, and then clapping the hands behind the body. Both claps take place before the hands return to the ground. You then immediately explode back into the air for another repetition.

This is a challenging exercise, which is also very effective. This exercise requires fast hands, flexibility, and body awareness.

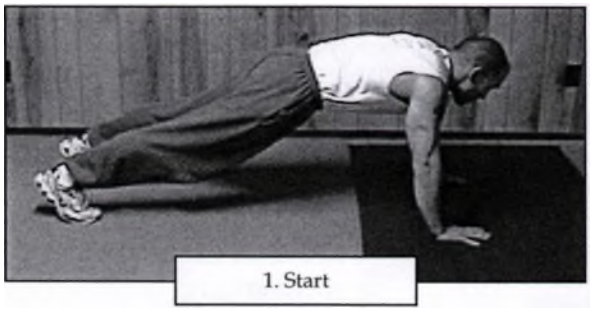
You must remain cognizant of your location in the air to avoid landing on your face. When first trying this pushup, start by only performing a behind-the-back handclap.

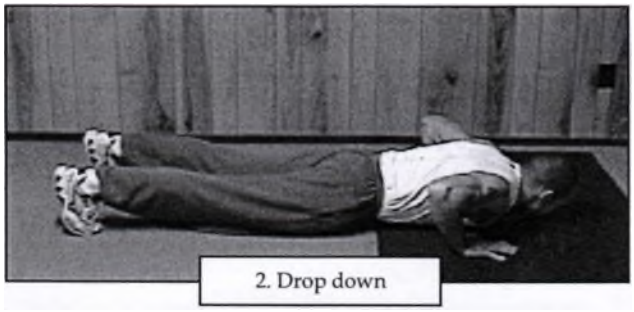
You must be very confident with the behind-the-back variation before trying a double clap (front and back).

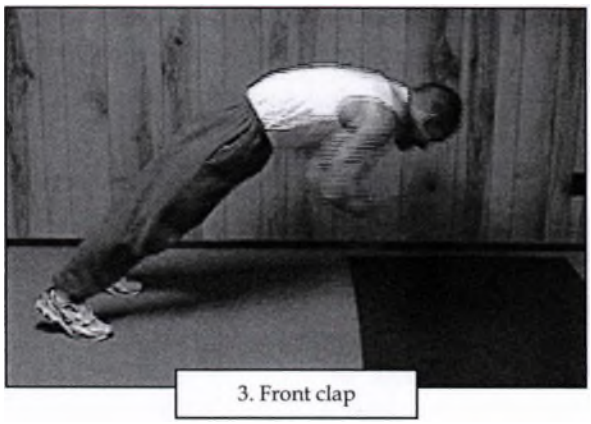
For a greater challenge, you can try a **triple handclap pushup**. This exercise starts identically to the front-to-back variation. The difference is that you will also clap the hands quickly in front of the body after performing the behind-the-back clap. This third clap occurs just before touching the ground.

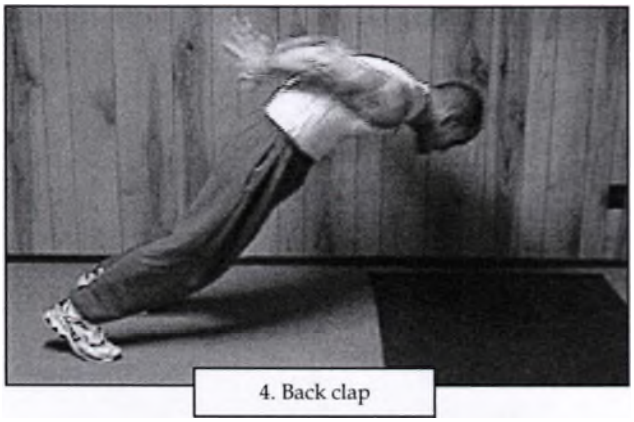
When training with any of the behind-the-back clap variations, it is useful to start with one repetition at a time. Stringing together multiple reps is much more difficult. As soon as you land after one repetition, it is difficult to reverse the motion, while still generating enough power to execute the necessary handclaps. There is not a lot of time to generate power. It is much easier to perform one repetition. When working with single reps, you do not need to immediately reverse the motion after landing.

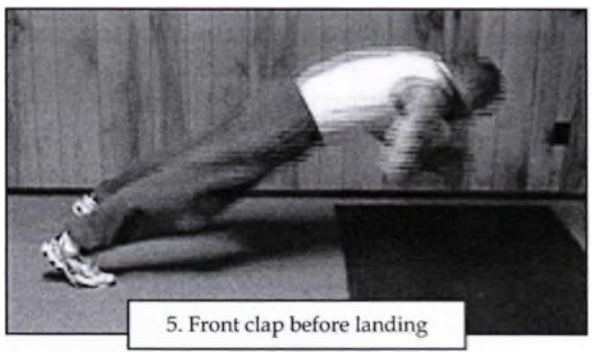
Performing multiple reps with this exercise epitomizes explosive strength. In a fraction of a second, you must reverse yourself from landing on the ground, to exploding upward with the power necessary for three handclaps.

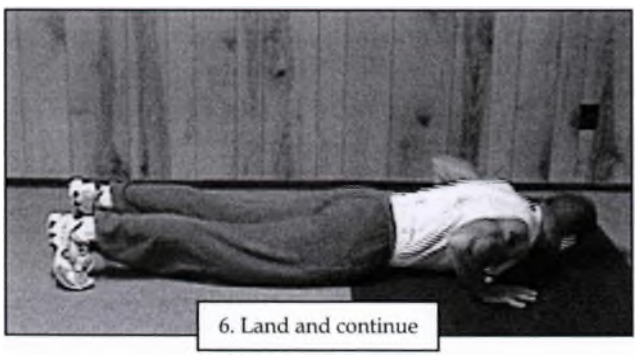

1. Start


2. Drop down

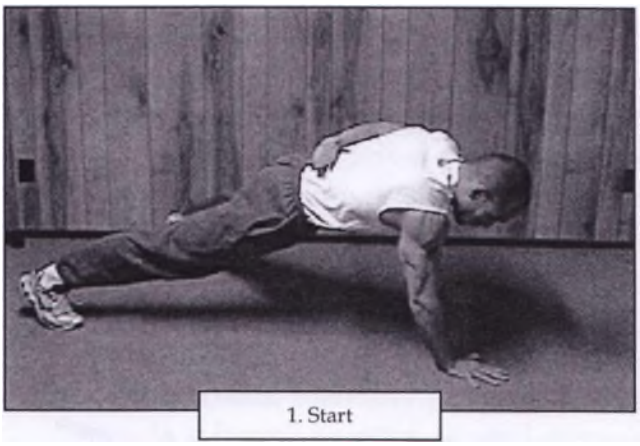

3. Front clap

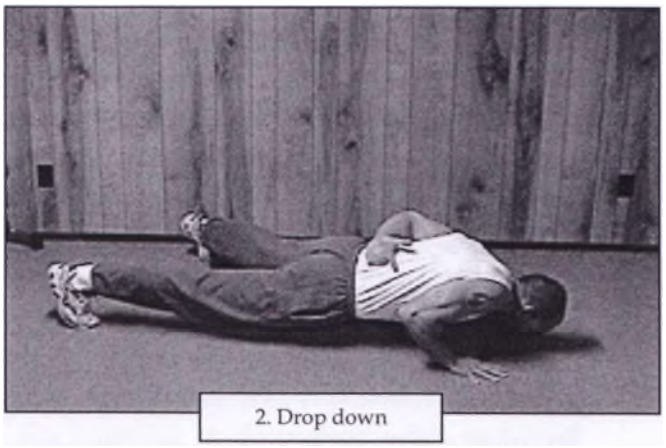

4. Back clap

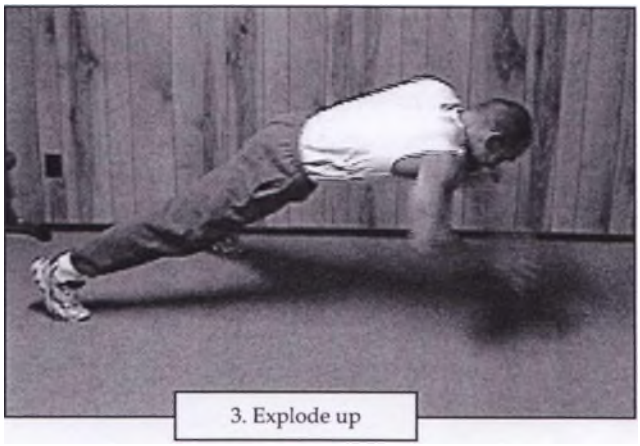

5. Front clap before landing

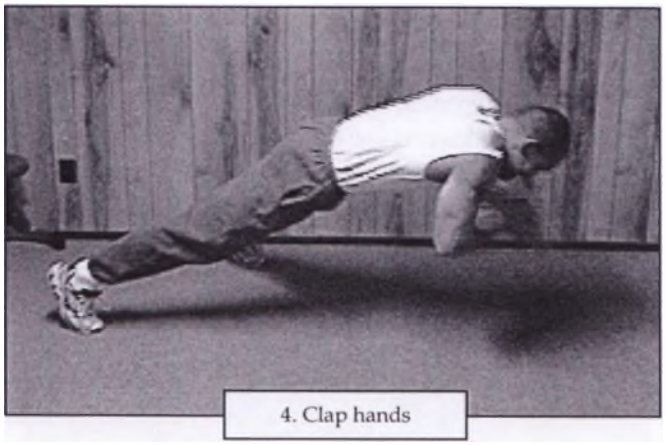

6. Land and continue

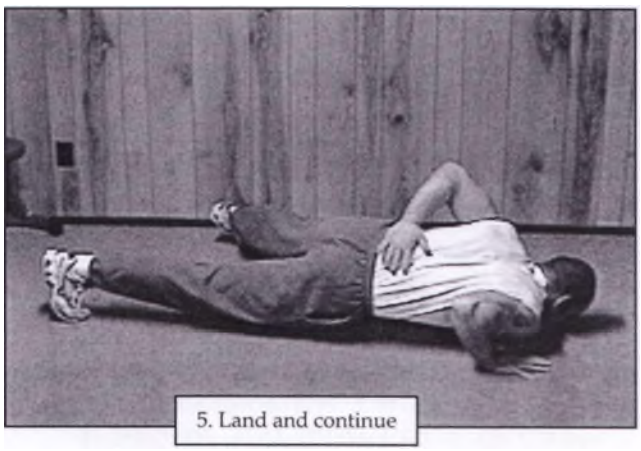
Another challenging pushup is the **one-arm plyometric pushup**. This variation requires strength, power, and coordination. Neither maximal strength nor explosive strength will be enough on its own. You must possess each strength quality to perform this exercise.


1. Start


2. Drop down


3. Explode up


4. Clap hands


5. Land and continue

Begin in the one-arm pushup stance. Lower yourself as you would with any one-arm pushup. As your chest approaches the ground, push hard, thrusting yourself into the air. As you become airborne, the non-working hand will clap the pushing hand.

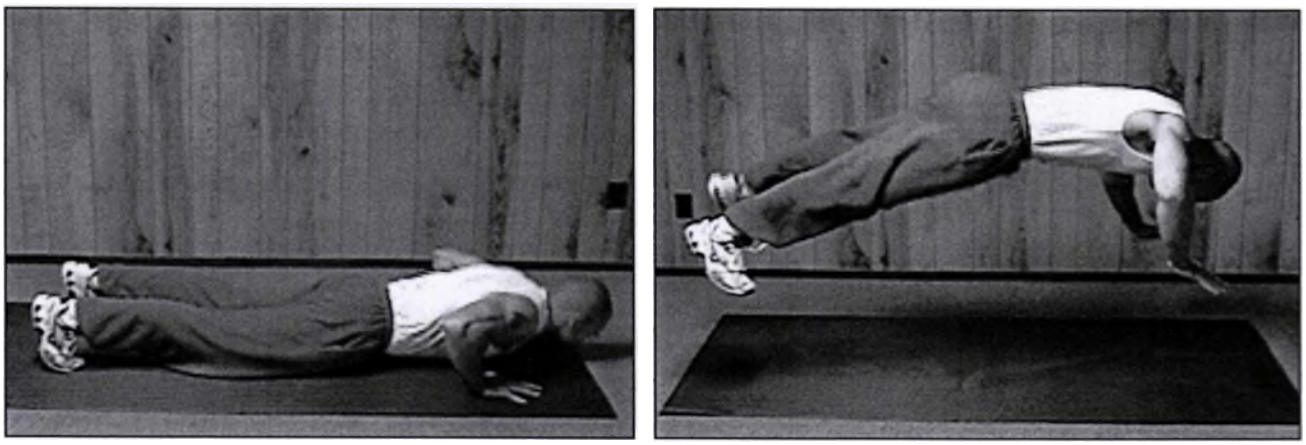
You must then catch yourself on one hand, as the non-working hand is quickly returned to the low back position. Immediately repeat the effort for the prescribed number of reps.

Do not try the one-arm plyometric pushup until you can comfortably perform 10 traditional one-arm pushups. When first attempting the one-arm plyometric pushup, it is a good idea to start with single repetitions. Perform one rep, rest briefly, and continue. Most athletes will be unable to perform consecutive repetitions on their first attempt.

Due to the stress of the exercise, you should limit the total number of repetitions per set to approximately 6. Six repetitions will be plenty for a quality set. This exercise will develop unilateral strength and power.

The **full body plyometric pushup** is the final explosive pushup exercise from this chapter. This movement will develop explosive power throughout the body.

For this exercise, you will explode up from the ground. The entire body will leave the ground, as you strive to maximize *hang time.* Upon reaching the ground, you will quickly lower yourself towards the floor and immediately explode back into the air.



Training With Explosive Pushups

If you decide to perform the plyometric pushup exercises from this chapter, I recommend starting with the variations from page 79. Keep the number of repetitions low to moderate. This is particularly true for the variations listed on pages 80 through 86. When working with power overs, I typically perform 12 to 20 reps (moving from left to right is one rep, moving back from right to left is

another rep). When working with the remaining variations, I work with 6 to 12 repetitions. As the stress of the exercise increases (ex. *full body plyometric pushups),* the number of repetitions per set should decrease. Perform 3 to 6 sets, depending on your remaining workload.

Take your time with these exercises. Focus on quality over quantity. Do not rush to perform the advanced movements. As for risk of injury, it is slim to none if you are adequately prepared. I have been working with these exercises for several years and have never experienced any pains or injuries. You simply must take the time to develop a proper foundation. This can be accomplished with the pushup variations seen earlier.

When considering the potential danger of these exercises, it is useful to examine the following information. Striking a heavy bag with maximal force is much more stressful than any pushup. Many combat athletes will repeatedly kick and punch a heavy bag for several rounds. Each strike is delivered with maximal force, often to a solid heavy bag with little *give.*

Oddly enough, there are those from the combat sporting world who will label plyometrics as dangerous. In their eyes, it is acceptable to kick and punch a solid bag, as well as each other, but unacceptable to perform a pushup. This argument does not make sense.

As a fighter, you must do everything in your power to ensure victory. I have been a fighter and a trainer, so I speak these words from personal experience. I have never been injured while training. If you prepare yourself properly, there is no reason for injury. Unfortunately, many athletes try to do more than their body is capable of performing. Without a solid foundation, you are asking for injury.

If you are consistent and diligent with your efforts however, you will eventually develop the foundation that is necessary to perform these movements without injury. These movements will allow you to increase speed and power.

Ross, the triple handclap pushup is impossible. I don't have the right genetics.

As a youngster, I could have easily bought into the argument that I didn't have the right genetics. I was a young teenager and failed in an attempt to perform a behind-the-back clap pushup. I tried the exercise and it seemed impossible. I almost smashed my face into the ground. I never thought it would be possible to perform the behind-the-back clap pushup, never mind a front-to-back or triple handclap variation. My persistence and refusal to accept failure were the only *genetic gifts* that allowed me to perform these movements.

When writing this book, I did not include difficult variations such as the triple handclap pushup with the expectation that you would perform the exercise on your first attempt. I included these exercises to illustrate an important point. Bodyweight exercise is not something that you will outgrow. Many young athletes are encouraged to leave bodyweight exercise behind in place of the weight room. They are led to believe that they can only achieve strength and power with free weights.

Bodyweight exercise is as difficult as you want it to be. There are many strong bench pressers in the world who would not have a chance at performing a triple handclap pushup. Even those individuals who are proficient with one-arm pushups may struggle with these movements. While these athletes clearly possess maximal strength, they may lack explosive strength. As mentioned earlier, the development of max-strength does not ensure explosive strength. Explosive strength is what I consider *useful strength.* If you cannot develop significant tension in minimal time, your strength will lack value in a fast paced, competitive environment. You need the ability to develop and display strength instantly. Movements such as the clap pushups from this chapter will develop this skill.

Certainly, you cannot be expected to perform these pushups on your first attempt. You must first start with less advanced variations, such as the traditional plyometric pushup. Eventually, you will reach the point where you can perform a behind-the-back clap pushup. When these become less difficult, you can proceed to the front-to-back variation, and finally the triple handclap. This process may take several months, or perhaps even longer.

The point that I wish to convey is that no one is born with the ability to perform these exercises. Hard work has a magical way of erasing any so-called genetic limitations.

I've been told that I would never perform certain feats. I refuse to listen. I was told that I would lose my teeth trying to perform a triple handclap pushup. I could have easily given in to the critics. I chose otherwise and I still have all of my teeth!

To summarize this rant, you must view life as an open book. You have the ability to write your own future. Don't let anyone put a ceiling on your ability. With hard work and perseverance, you can achieve anything. You may fail several times, but if you stick with it, the time will come when you do succeed.

Ross, I am training to maintain physical fitness. I have not competed since I was a young man, and do not have any plans to compete in the future. Does it make sense for someone in my position to perform these plyometric pushups?

In an earlier chapter, I discussed the importance of Purpose Driven Training. There must be a reason behind every action. You must always have an answer to the question, *"Why are you doing that?"*

Suppose that you have no interest in competitive athletics, yet you decide to work with advanced plyometric pushup exercises. How would you answer the preceding question?

There is a good chance that you would not have an answer to the question. Ultimately, you must determine your goals. You must then develop an appropriate strategy to achieve these goals. If you are training for general fitness, with no competitive aspirations, your need for plyometric training will be less (often non-existent) than that of a competitive athlete.

Unfortunately, plyometric training is often misunderstood and incorrectly applied. There are actually published fitness articles that suggest plyometric training for weight loss. Plyometrics are not intended for weight loss! If an athlete is overweight, they have no business performing plyometrics. The use of plyometric training should be limited to well-conditioned athletes. These individuals can certainly benefit from the work. Others, with no competitive aspirations, can choose alternative methods for body sculpting and strength development.

Pushing Summary

As this chapter has illustrated, there are countless pushing exercises. You do not need heavy weights to develop qualities such as strength endurance, maximal strength, and explosive strength. You can develop each of these qualities with little or no equipment.

Do not be so quick to focus your efforts towards the bench press. You can do plenty on the ground without a barbell or bench.

LOWER BODY STRENGTH & POWER

"All great achievements require time." - David J. Schwartz

Throughout our *bench-press infested* world, it is rare to find athletes who take the time to train below the belt. Most gym goers are only concerned with their shirtless appearance. They can usually be found bench pressing, pumping the biceps, and rolling around on the floor cranking out high repetition sets of abdominal crunches. The only training the legs receive is a walk to the water fountain between exercises.

At the other end of the spectrum, we will find individuals who spend their time squatting hundreds of pounds, developing powerful tree trunk legs. While clearly a step in the right direction, squatting hundreds of pounds is not enough. Ask them to walk a few flights of stairs and it will be like pulling teeth. Unfortunately, they have put all of their eggs into one basket (maximal strength). Their legs are good for one thing, squatting heavy loads.

As an athlete, you must develop a useful pair of legs. This means a pair of legs that is strong, powerful, fast, and enduring. It is not enough to develop one attribute at the expense of all others. The legs serve as your foundation. They are perhaps the most functional part of the body. Very few daily activities will be performed without the legs. Even sitting on the toilet requires a squat.

Whether you are running, jumping, wrestling, punching, kicking, or using the toilet, the legs will play an instrumental role in your success. The legs are responsible for locomotion, powering almost every athletic activity. The legs must be trained with a varied program, ensuring the development of several strength qualities. An athlete should be able to run fast, run distance, sprint hills, and jump high. If your strength workout has not accomplished these objectives, you need an adjustment.

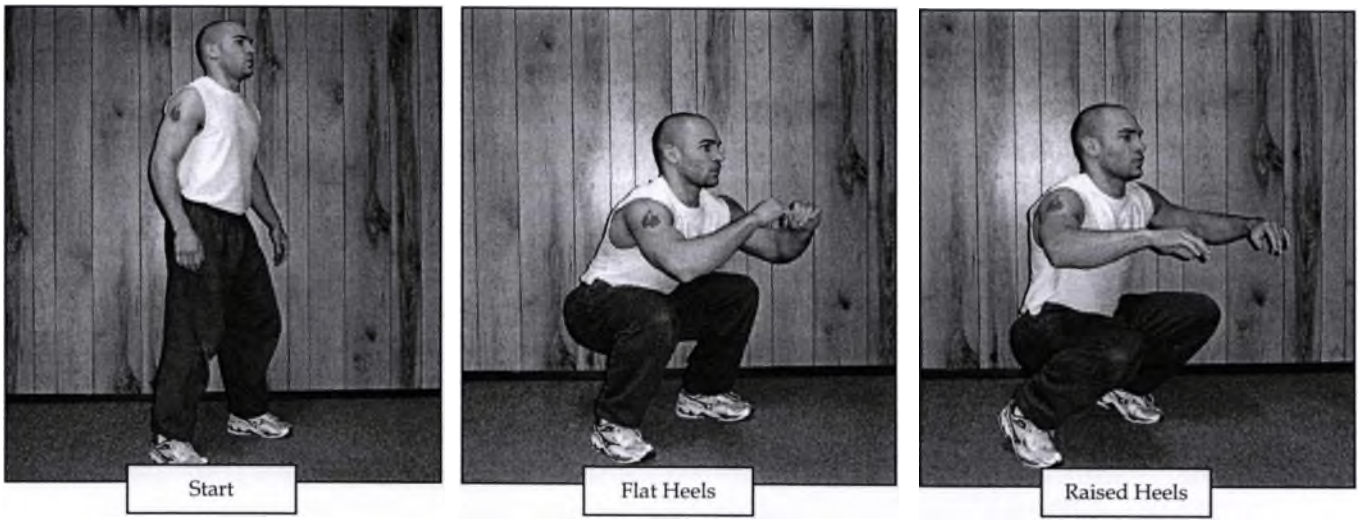
While heavy squat training can certainly be useful, most athletes do not need the raw squatting strength of a powerlifter. It does not make sense to devote all of your lower body training to such methods. I'd rather have my athletes be able to sprint a steep hill at top speed without collapsing to the ground in search of the nearest puke bucket. A diversified attack will develop legs that are strong and enduring.

The Exercises

It only makes sense to begin with the bodyweight squat. This exercise is a common source of controversy and conflicting opinions.

Below, I have illustrated a universal starting position, followed by two different squatting methods. The first method (middle image) shows a bodyweight squat which is performed with the heels planted firmly on the ground. You begin with a shoulder width stance, and drop the butt down while maintaining an upright posture. As the legs become parallel to the ground, you then push up, keeping the heels flat on the ground.

The second method (image to the far right) shows the heels elevated from the ground at the bottom of the movement. For this variation, you will start by lowering yourself, and simultaneously lifting the heels from the ground as your butt becomes parallel with the floor. You then drive off the toes, back to the upright (starting) position.



Many proponents of the flat heel squat criticize those who perform squats with the heels elevated from the floor. In their eyes, all squats should be performed with the heels planted on the ground.

On the flip side, athletes from the combat sporting world have been squatting with a raised heel variation for hundreds of years. Indian wrestlers have long used the *baithak* (commonly referred to as a Hindu squat) as an integral part of their lower body conditioning. This variation requires the athlete to raise the heels from the floor so they are essentially squatting from the balls of the feet. This variation also includes an arm swinging motion where you reach forward with the arms and then pull back in a rowing motion.

The critics of the *baithak* consider this variation to be an inferior method of squatting. They contend that this variation lacks functionality, as more power is produced with the heels grounded. They also contend that the baithak will contribute to poor lifting technique when performing the squat and deadlift. Unfortunately, both arguments lack steam.

Consider the following analogy. A boxer spends most of his time on the balls of his feet. There is nothing worse than a flat-footed boxer. A flat-footed fighter will lack mobility. Great fighters such as Sugar Ray Leonard and Muhammad Ali spent most of their time circling the ring and attacking while on the balls of the feet. Can you imagine telling one of these all-time greats that by moving on the balls of the feet, they would risk hindering their deadlift technique?

A fighter must move forward, backward, and side-to-side while on the balls of the feet. He must also move the head, duck, bob and weave, punch, counter punch, and establish angles for attack. These actions also take place while on the balls of the feet. A wrestler or grappler will also spend a good portion of his time attacking from the balls of the feet. You will not find many combat athletes who move with the heels grounded.

I am confident that if you interviewed a champion Indian wrestler, he would not be concerned that his conditioning work would interfere with his deadlifting technique. Chances are that the wrestler has never used deadlifts as part of his wrestling preparation.

As mentioned earlier, science is defined as the state of knowing. Commonsense and intuition are valuable qualities. Man has exercised on this planet since the beginning of time. For an exercise such as the *baithak* to stand the ultimate test of time is a clear indication the movement cannot be as bad as many would like you to believe. If the exercise were hindering the development of champion wrestlers, it would have been discarded a long time ago.

If you were training solely to develop the deadlift, perhaps you would not need the heel-raised variation. It is equally important to understand however that different athletes have different needs. To those who wish to criticize all individuals who perform the heel raised variation, perhaps they should first spend some time on the ground with an experienced wrestler who has used the exercise as a staple in his conditioning routine. A little *hands-on experience* may influence these critics to reconsider their initial assessment. Being pinned to the ground has a magical way of opening your eyes to a new set of ideas.

Personally, I have used both the flat heel and raised heel method for several years. I strongly believe that both methods are effective. I make this statement

after years of personal experience. My advice is to experiment with both variations and decide which method is most comfortable for you. We each have unique body types. No one knows your body better than you. Choosing one method over the other will not condemn you to failure in your athletic career. Both methods are effective and serve a purpose.

Whether you use a flat heel variation, a raised heel variation, or a combination of both, I highly recommend finding time for the bodyweight squat. This exercise will build incredible strength endurance in the lower body. All fighters have experienced the feeling of no legs inside the ring. This is an awful feeling which can make the ring a very lonely place. All combat athletes, regardless of style, need tremendous strength endurance.

Squats can be performed on their own or as part of an integrated conditioning workout. I recommend both approaches. Many bodyweight exercisers perform squats with high repetition sets. I personally worked up to several hundred consecutive repetitions with the exercise. Unfortunately, many athletes who focus on high repetition squats, do so at the expense of all other exercises. Earlier, I spoke of an athlete who could perform several hundred squats, but was *out of shape* when forced to run on the track.

Clearly, the development of strength endurance via bodyweight squats does not guarantee all around fitness. Many individuals who can perform high repetition squats are unable to perform even one repetition with the natural glute-ham raise (page 102). No single exercise will ensure complete development.

High repetition squats typically involve a *pacing* element. A set of 500 consecutive squats will require several minutes of your time. It is human nature to pace yourself throughout the exercise. A steady cadence is maintained. This method of squatting is much different from a full speed (high intensity) set of squats. The Tabata protocol is a classic example.

Tabata Intervals have become popular in recent years. This protocol originates from a study performed by Dr. Izumi Tabata (and colleagues) at the National Institute of Fitness and Sports in Tokyo, Japan. A Tabata interval routine consists of 20 seconds of maximum intensity exercise, followed by 10 seconds of rest. This 30 second cycle (20 seconds of work, 10 seconds of rest) is repeated 8 times. The entire drill lasts four-minutes (8 x 30 seconds).

After six weeks of testing this protocol with a mechanically braked cycle ergometer, Dr. Tabata noted a 28 percent increase in anaerobic capacity along with a 14 percent increase in V02Max. Since the original study, the Tabata protocol has been applied to several forms of exercise such as sprinting, striking a heavy bag, and bodyweight exercises such as the squat.

Applying the Tabata protocol to the bodyweight squat will leave you with the following four-minute routine:

1. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
2. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
3. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
4. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
5. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
6. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
7. Bodyweight squats x 20 seconds
    - Rest x 10 seconds
8. Bodyweight squats x 20 seconds
    - Rest x 10 seconds

Each twenty-second interval requires an all-out effort. You are striving to perform as many squats as humanly possible. There is no pacing involved. Push your body as fast as possible during each twenty-second block. Many athletes who feel comfortable with high repetition sets of squats crumble under the intensity of the Tabata protocol. The moral to this story is to focus on quality over quantity. Do not limit your bodyweight squat training to high repetition sets. Mix it up with faster, more intense work.

Another option for bodyweight squat training is the use of integrated conditioning routines. For example, suppose that it takes you 15-minutes to perform 500 bodyweight squats. Compare these 15-minutes to the following 15-minute workout.

- Sprint 50 meters
- Perform 30 squats and 30 pushups
- Repeat as many times as possible in 15-minutes

I am guessing the combination of sprint work, squats, and pushups will leave your heart beating a lot faster than a single set of bodyweight squats.

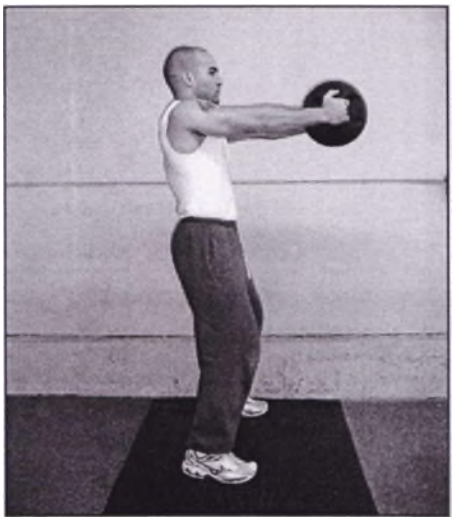
Ross, are you suggesting that I should avoid high repetition sets of bodyweight squats?

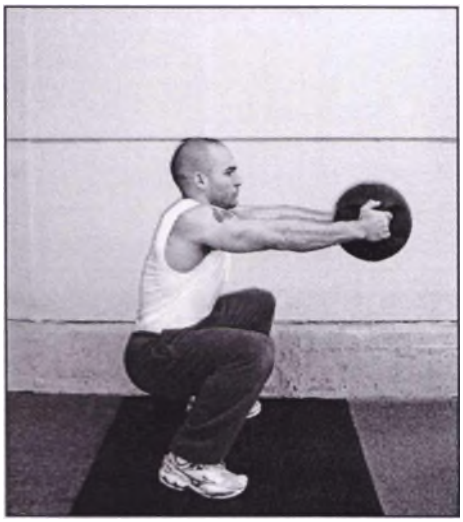
No, this is not what I am suggesting. In fact, I find high repetition sets to be useful, particularly from a mental toughness standpoint. If bodyweight exercise is new to you, it is common to become stuck after 50 or 60 squats. Lactic acid sets in and the legs refuse to continue squatting. Working through this fatigue is a valuable quality for any combat athlete. No one is immune to fatigue. The time will come when you are exhausted. Learning to push through fatigue in training will pay valuable dividends in the competitive arena.

High repetition sets can certainly prove useful. I simply caution you against focusing all of your energy to one strength quality. Incorporate variety into your conditioning routine. The body will adapt to anything. The more time that you spend squatting with high reps, the easier these sets will become. At this point, it is time to introduce new challenges. The Tabata protocol is just one of many options. Variety is not only the spice of life, but also a necessity to any training routine.

Ross, should I use a flat heel or raised heel squat for the Tabata protocol?

The flat heel variation will likely allow for a faster pace. The range of motion is less. Ultimately, you must decide which variation is more comfortable for you.

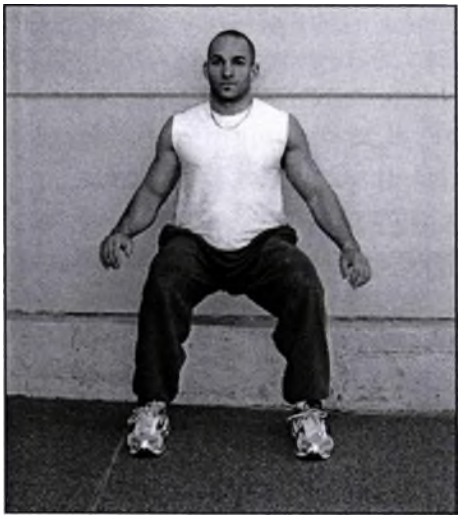




A medicine ball adds another element to the bodyweight squat. By holding the ball out in front of the body, you will condition the shoulders throughout the movement.

This is an effective exercise for a fighter who needs endurance in both the upper and lower body. Maintain

a brisk pace, squatting up and down, with the arms held out in front of you. The arms remain stationary, holding the ball parallel to the floor. A weight plate could also be used.



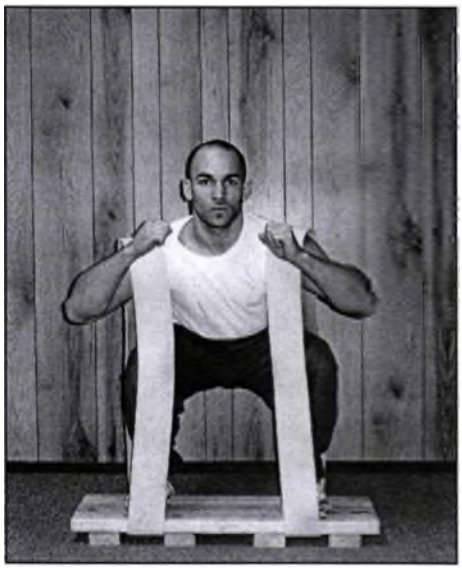
The wall squat is another excellent exercise. I often use this exercise as a finisher to a workout. It offers a valuable way to ensure the workout was of adequate intensity.

To perform the exercise, squat down until the thighs are parallel to the floor, with the back supported against a wall. Hold this position for time. There is no movement.

Focus on maximally contracting the legs. You can squeeze a basketball between the thighs as hard as possible to ensure maximal contraction.

Beginners will struggle to hold this position for 30 seconds. As you become proficient with the exercise, it is common to work up to several minutes. Maximally contracting the legs will make it much more difficult however. The harder you *squeeze,* the more difficult it will become.

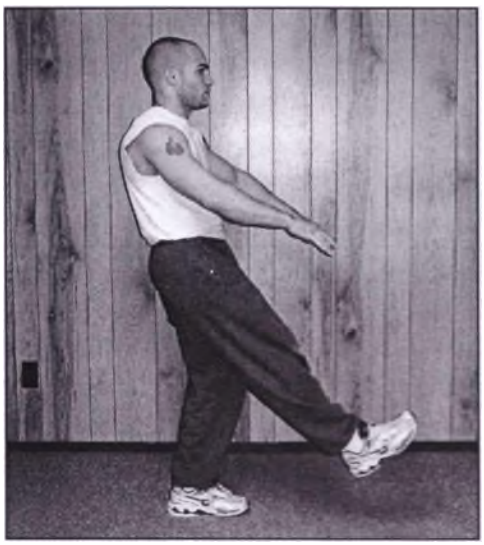
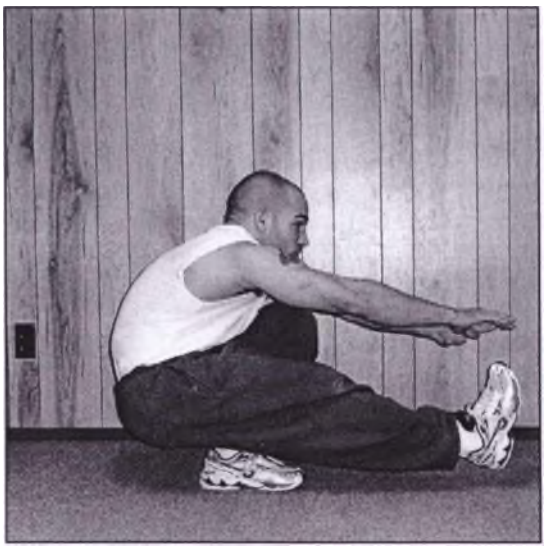
Resistance bands can be added to the bodyweight squat to focus more on pure strength development, as opposed to strength endurance. Below, I have demonstrated a double resistance band squat with a homemade band platform. By adding two extra-large bands to the movement, you can achieve a quality strength workout.



Resistance bands offer a useful alternative to heavy squat work if you train at home without a squat rack and spotter. The platform that I built was constructed from a few 2x4 inch pieces of wood. The total cost was around $10. The platform is 35 inches wide. I screwed four short pieces of wood on the bottom of the platform to secure the bands in place. You can work with two bands at once, as seen on the previous page, or you can work with one band by securing it to the middle of the platform. Below, I have demonstrated a resistance band curl by securing the band from the center portion of the platform. A piece of 24-inch pipe is used to perform the curl.

Reverting to the squat, you will simply stand inside the two bands. The bands will rest on the shoulders. The tension from the bands will keep them in place. Explode *out of the hole* as you thrust to the upright position. I keep a brisk pace when squatting with bands. You will achieve strength and conditioning benefits from this exercise.

If you prefer a pure bodyweight exercise for strength development, consider working with the **one-legged squat**.

To perform the one-legged squat, you will start by lowering yourself on one foot. The heel will remain flat, as the non-working leg extends in front of the body, approximately parallel to the floor. As you squat down, you should lean forward slightly to aid with balance. Pause briefly at the bottom of the movement before pushing up with the working leg. You will end in the starting position. From here, lower yourself back down and continue. Work both sides evenly.

The one-legged squat is a tremendous exercise that will require a blend of strength, balance, coordination, and flexibility. Unfortunately, few athletes perform this exercise. Many individuals try the exercise, and then quickly discard it. Excuses commonly follow, with statements such as:

"I don't have the right body type for the exercise."

This is nonsense. You do not need a special body type to perform a one-legged squat. I have seen tall and lanky athletes perform the movement, as well as short and stocky athletes.

Most athletes cannot perform one-legged squats on their first attempt. You will need to work at achieving this exercise. Several strategies exist to prepare you for the unassisted one-legged squat. First however, you must identify why you are unable to perform the exercise. Common problems include lack of strength, lack of flexibility, lack of balance, or a combination of each.

If you lack the strength to perform the movement, consider working with partial repetitions. You can use a stair step or low stool to perform partial box squats. Lower yourself on one leg until your butt touches the stool or stair step. Pause briefly, and press up on one leg. You can also vary the height of the stool. As you gain strength, you can work with a lower stool or lower stair step (ex. bottom stair).

If you are a strong weight room squatter, but struggle with the one-leg squat, it is not because of inadequate strength. You are likely struggling with balance or flexibility.

If you sense a balance problem, consider performing the exercise between a door entrance. Put your hands out to the side as you lower yourself into the squat. Hold the frame of the door to maintain balance. Upon reaching the bottom of the exercise, try to let go, and hold the position for a few seconds. You must become comfortable and stable in the bottom portion of the exercise for successful execution. If you cannot hold yourself in the bottom of the exercise, you will always struggle with the movement. You must work on maintaining balance from this position.

Resistance bands can also be used to aid with balance. Loop a resistance band from a pole. Hold the band in outstretched arms as you perform the one-legged squat. If you start to lose balance, pull on the band to correct yourself. Hold the bottom portion of the squat while using the band to correct any faults in balance. With regular practice, you will gain confidence in the bottom portion of the movement. Once you develop this ability, the exercise will become much less difficult.

Another option is the use of a shoe with a significant heel (ex. work boot). The large heel will aid with stability. Many athletes find this exercise much easier when wearing a boot. You may be able to perform several reps while wearing a boot, yet struggle to perform one rep while barefoot.

Furthermore, holding a free weight (ex. dumbbell, kettlebell, or medicine ball) in front of the body may actually make the exercise easier to perform. The weight will assist with balance in the bottom portion of the exercise.

If flexibility is an issue, consider performing the exercise from a raised platform. As you can see in the illustration, performing the exercise from an elevated position allows my front leg to hang below the platform.

Therefore, you can perform the exercise without the flexibility that is otherwise required to extend the leg out directly in front of you (without hitting the floor).

Unfortunately, there will be those who criticize modified versions such as the one-legged squat from a platform. These individuals contend that use of a platform is *cheating.*

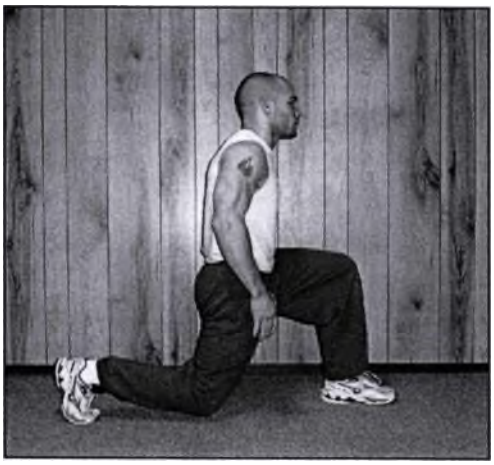
I do not agree with the argument. A one-legged squat is a fine strength exercise, whether you use a platform, a stair step, or a pair of work boots with a significant heel. We are not training for a one-legged squat competition. At the

end of the day, does it really matter if you make a small adjustment to enable yourself to perform the exercise? Do we really need the flexibility to hold the lead leg out in front? During all my years as a competitive athlete, I never once was forced to lower myself on one leg, with the other leg extended straight out in front of me.

Personally, I do not need a platform to perform the exercise, but if you find it helpful, I encourage you to use it. While writing this book, I actually tested myself for three weeks, performing one-legged squats from the cement block illustrated on page 99. After three weeks of *cheating*, I did not notice any changes to my so-called *functional strength* or athletic performance. I was able to achieve a quality workout from the elevated platform.

The moral to this story is that if you need to make an adjustment, then make the adjustment. It is as simple as that. With regular practice, you will gain proficiency with the exercise. In the meantime, you may as well benefit from the strength aspect of the movement. You can gain plenty of strength without the flexibility required to perform an unassisted one-legged squat.

Beyond Squats



Squats are just one of many options for the lower body. The lunge is another useful exercise. Bodyweight lunges do not offer a lot in terms of resistance, but are particularly useful for those who are new to exercise. More advanced athletes can supplement the movement with a weighted vest.

Lunges also make a useful addition to a bodyweight leg circuit.

For example, try the circuit below:

Leg Circuit

- 10 Burpees (page 163)
- 20 Lunges
- 30 Squats
- Repeat 5 times - Rest 30 to 60 seconds between circuits

To perform the lunge, you will start by standing with the feet shoulder width apart and the hands by your sides. Step forward with the left foot, planting the foot firmly as the thigh becomes parallel to the floor. The right leg will be extended with the knee slightly bent. Step back with the left foot, returning to the starting position. Continue by lunging with the right foot. Each lunge forward counts as one repetition.

One of the best lower body training tools may be sitting out in your driveway. **Car pushing** is probably the most underused, underrated exercise of all. The instructions are simple. A training partner will steer the automobile in neutral as you push forward as hard as possible. You can also push with your back against the car. Either variation is sure to challenge you.

Large parking lots are great for this exercise. For example, car pushing is an excellent finisher to a school playground workout. Such a workout could include pushups, pull-ups, and muscle-ups. Finish with a few sets of car pushing in the parking lot.

When performing this exercise, push with all of your strength. Heavy vehicles such as SUV's are ideal, as they offer much more resistance. This exercise will provide strength and conditioning benefits. Push the car the length of the parking lot, rest briefly as your partner turns the car around, and continue with another set. Ten repetitions of this exercise will leave your legs begging for mercy.

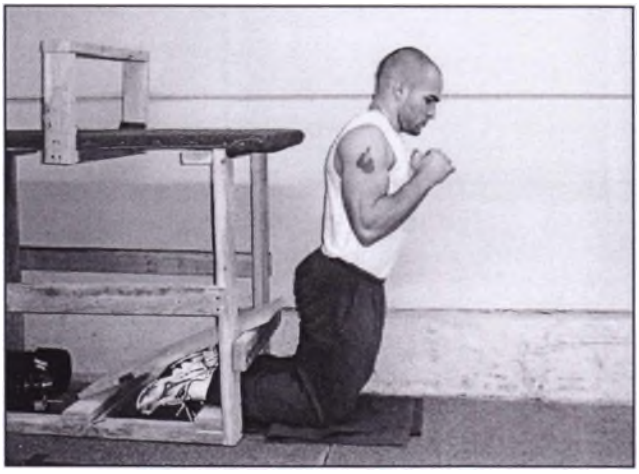
Moving right along, let's shift the focus towards the hamstrings. The hamstrings constitute the fleshy muscles of the posterior thigh, including the biceps femoris, semitendinosus, and the semimembranosus.

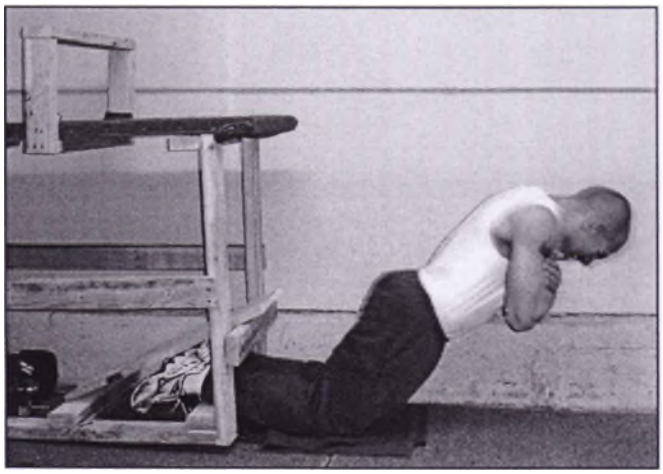
Unfortunately, these muscles are neglected in many exercise programs. This is particularly true for the bodyweight exercise community. Many individuals limit their lower body training to quad dominant exercises such as the squat. The hamstrings rarely receive direct work, which can lead to muscular imbalances. Such imbalances increase the risk of injury. Consequently, pulled hamstrings are one of the most common injuries among competitive athletes. Do not overlook the hamstrings. Just because you do not see these muscles when looking in the mirror does not mean they should be forgotten.

Perhaps the best hamstring exercise is the **glute-ham raise**. As mentioned earlier, it is common to be capable of performing hundreds of bodyweight squats, and still be unable to perform one repetition of this exercise.

I use a homemade bench to perform the glute-ham raise. The instructions are straightforward. The ankles must be secured and padding should be placed under the knees. If you do not have a bench or machine for this exercise, a training partner can hold your feet in place. Start in the upright position and slowly lower yourself to the ground. You should not fall to the ground. The descent should be **slow** and **controlled**, as the body remains tense. You can even incorporate a static hold half way down. A static hold from this position will be extremely difficult, and will *fry* the hamstrings.

Upon reaching the ground, contract the hamstrings tightly to lift yourself back to the starting position. Pull hard with flexed hips, hamstrings, and glutes. If you need assistance from the upper body, push off with the hands. As you gain strength, you will become less dependent on the upper body. You may even reach the point where you need additional resistance. This can be achieved by wearing a weighted vest or by holding a weight across the chest.

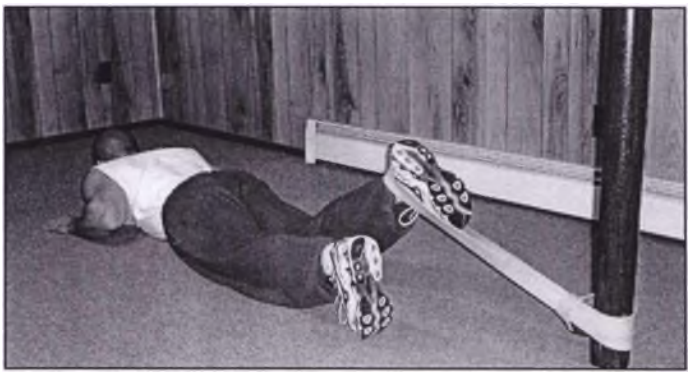




Ross, the glute-ham raise is too difficult for me. What should I do?

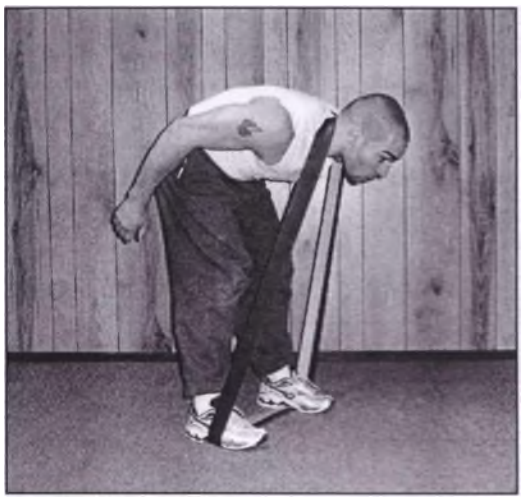
This situation is common, as many athletes have neglected the hamstrings. When attempting exercises such as the glute-ham raise, they find the movement too difficult to perform. If you find yourself in this situation, you must develop hamstring strength with alternative methods.

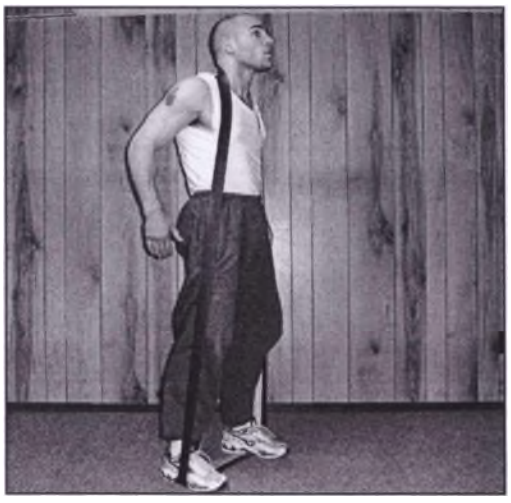
A **hamstring curl** with a resistance band is an ideal starting point. Both novice and advanced athletes can benefit from this movement. Beginners can use a light resistance band, while advanced trainees can benefit from a high-tension band. Simply loop the band around the ankle and curl the heel towards your butt. The knee will remain grounded, as you curl the band towards the body.



A resistance band **good morning** is another tremendous exercise for the hamstrings and low back. Stand on the band (or bands) with one end of the loop under the feet, and the other end positioned behind the bottom portion of the neck. As you can see below, I have used two bands to increase the resistance.

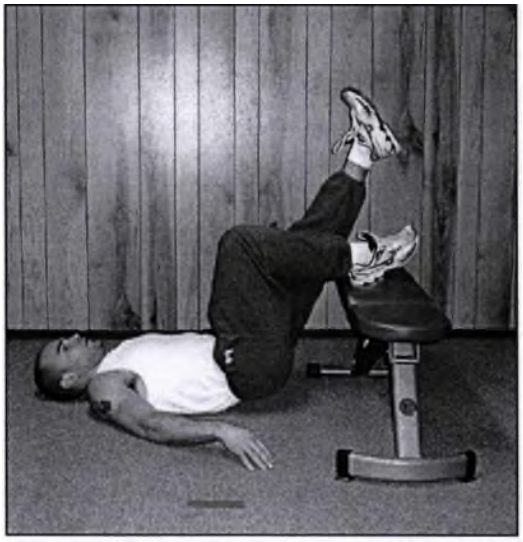
With a slight bend in the knees, you will bend forward at the waist. You must then use the muscles of the low back and hamstrings to straighten the body back to the upright position.

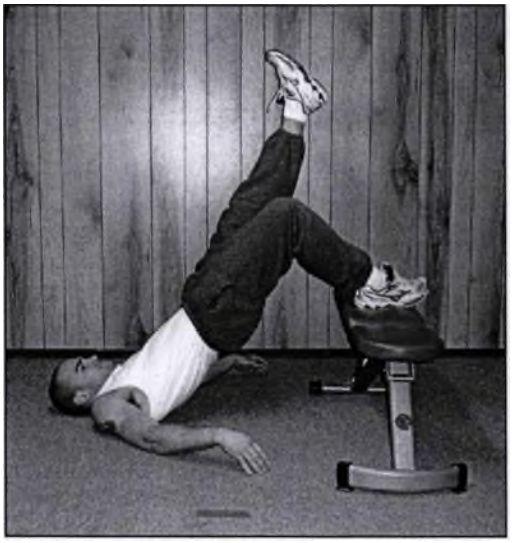




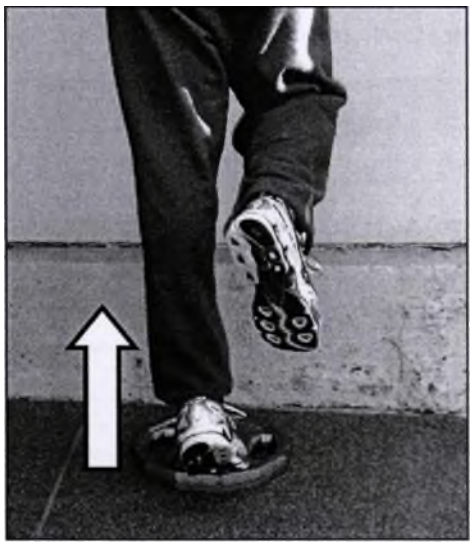
When first performing the good morning with bands, start with a light band. This exercise is more difficult than it appears. Eventually, you can use multiple high-tension bands. The movement is ideal for moderate to high repetitions. I often perform 15 to 30 reps with this exercise.

If you do not have access to bands, you can train the hamstrings with nothing more than a chair (or bench). You can perform a **modified hamstring curl** by lying on the ground, with one foot resting on the chair. The non-working leg will be held in the air. Simply press your foot into the chair (pushing down), which will raise your butt off the ground. Focus on squeezing the backside of your leg (hamstrings and butt). If the one leg variation is too difficult, you can perform this exercise with both legs. This exercise is ideal for beginners.





Isometrics can also be used to train the hamstrings. Refer to the next chapter for samples.



The calf muscles are often neglected as well. The calves absorb shock and stabilize the ankle and knee.

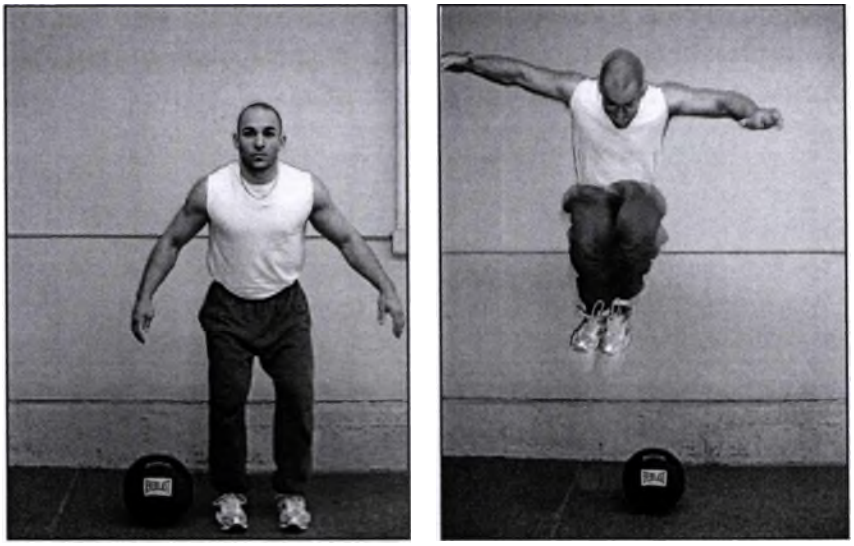
The calves can be effectively trained with a simple **calf raise**. Rise on the toes with one foot at a time. You can also perform the movement with the toes elevated from a stair step or weight plate to increase range of motion. Add a heavy weighted vest for a greater strength emphasis.

Blast Off

In addition to muscular endurance and strength, bodyweight training is ideal for the development of explosive strength for the lower body. Many athletes who seek to run faster and jump higher mistakenly focus all of their attention to the weight room. Free weights are often unnecessary when training to develop explosive strength within the legs. Many successful vertical jump programs have been developed which rely heavily on bodyweight exercises.

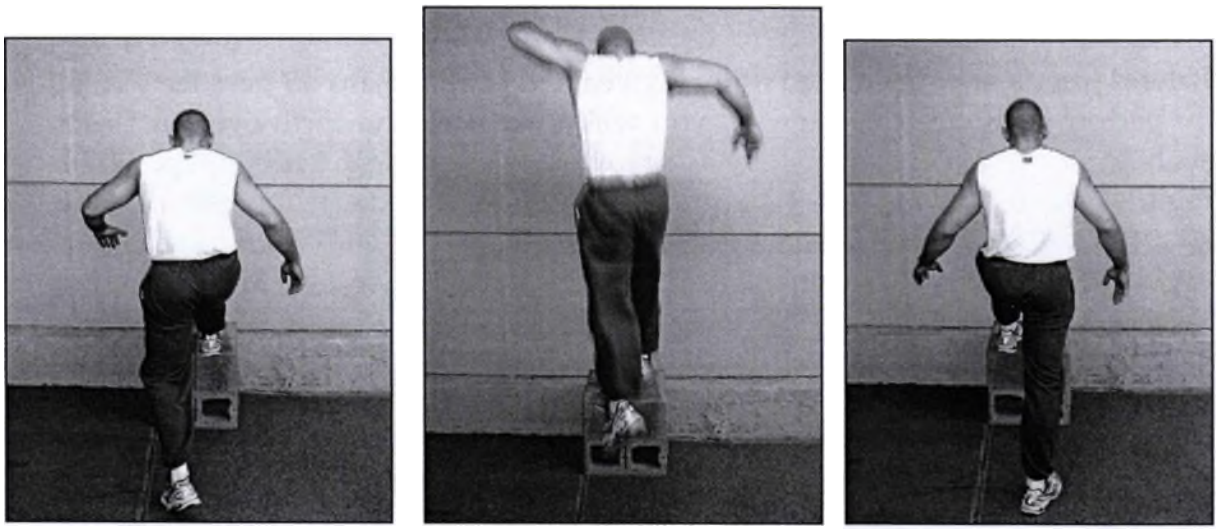
Lateral jumps have been used for many years in boxing gyms all over the world. To perform this effective exercise, you will jump back and forth over an object such as a medicine ball. Strive to maximize height with each jump, while minimizing ground contact. You must focus on quick, powerful bursts into the air. Each time the feet touch the ground is one repetition. When focusing on explosive strength development, keep the rep range low for each of the jumping exercises that follow (ex. 10 to 20).

The lateral jump is also commonly used as a conditioning exercise however. For example, a boxer may hit the punching bag for the first two-minutes and 30 seconds of a three-minute round. He will then finish with 30 seconds of lateral jumps over a medicine ball. This drill forces the athlete to display explosive qualities despite fatigue. This attribute is a requirement of all successful combat athletes.

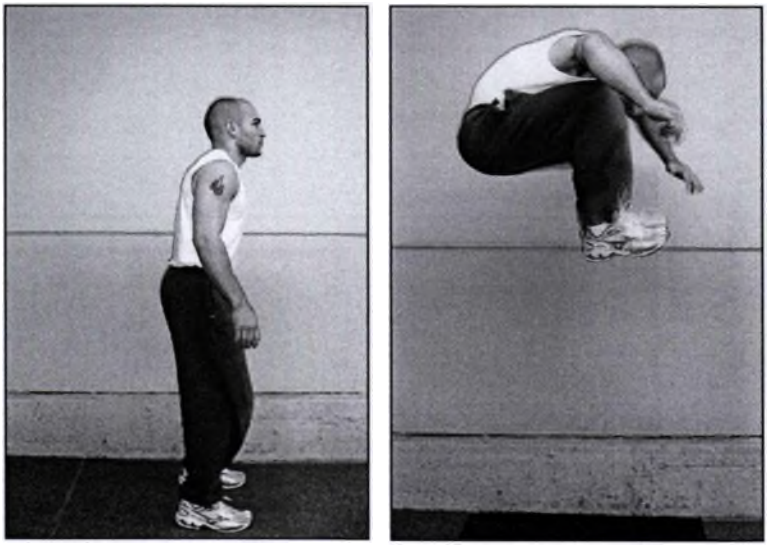


The anti-fatigue mats discussed earlier can be used to assist with shock absorption during each of these jumping exercises.

The **explosive step-up** is another tremendous lower body exercise. This exercise is particularly useful as it involves a unilateral aspect. Each leg must fend for itself. You will begin with one leg elevated. The foot will rest on a sturdy bench (or even a stack of cement blocks). The thigh should be approximately parallel to the floor. From this position, you will push off with the elevated leg as powerfully as possible. You are striving to maximize hang time. While in the air, you will switch legs, landing with the previously grounded leg up on the bench. Immediately repeat the procedure with another explosive step-up. Work back and forth at a brisk pace.

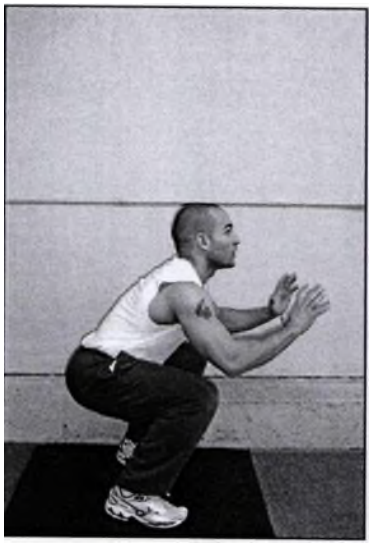
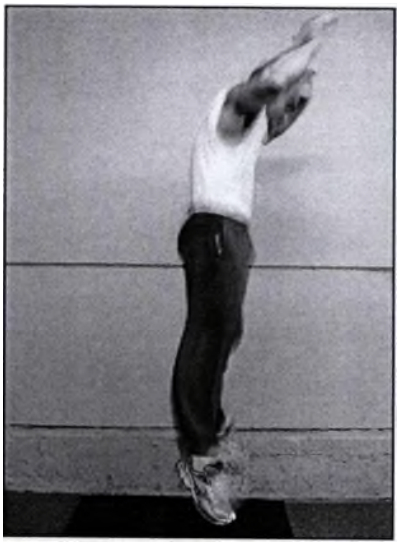


Knee tucks are an excellent movement that will strengthen the hip flexors and develop explosive leg power. You will begin in a semi-squat position with the knees slightly bent. From this position, you will explode into the air, bringing the knees to your **chest** at the top of the jump. As with each of these movements, minimize ground contact and maintain a brisk pace.



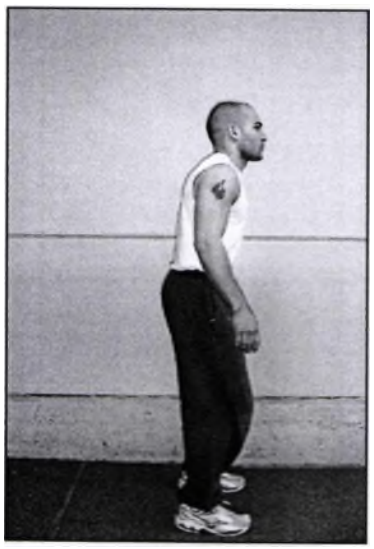
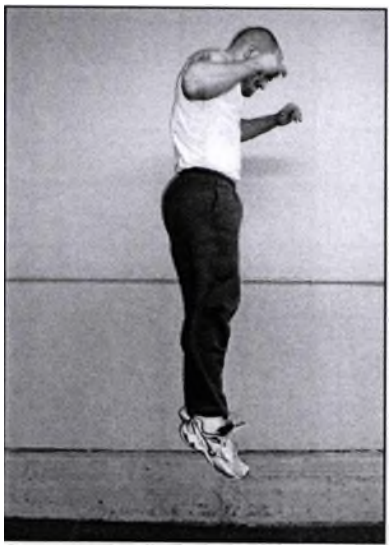
The **squat jump** begins as a bodyweight squat, and continues with an explosive jump into the air. This exercise differs from the knee tuck, as you will not bring the knees to the chest. You will also be squatting parallel to begin each repetition.

This is a tremendous exercise for power development throughout the legs. Just because an athlete can perform high rep bodyweight squats does not guarantee a *powerful* lower body. Strength endurance is a unique quality, developed with a unique protocol. The squat jump is an excellent movement for anyone looking to develop power in the lower body.

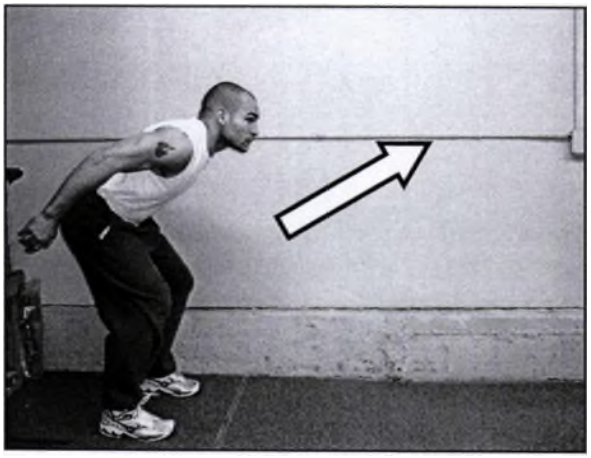
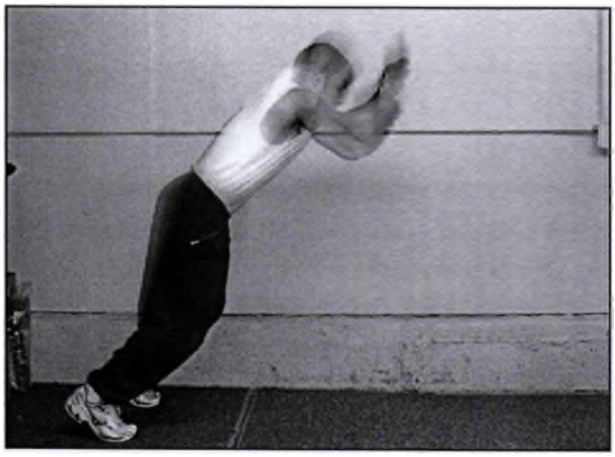



The **ankle hop** (also referred to as a semi-squat jump) will develop powerful calf muscles. With the knees slightly bent, jump up and down from your toes. Concentrate on quick and precise jumps. Explode from the toes.

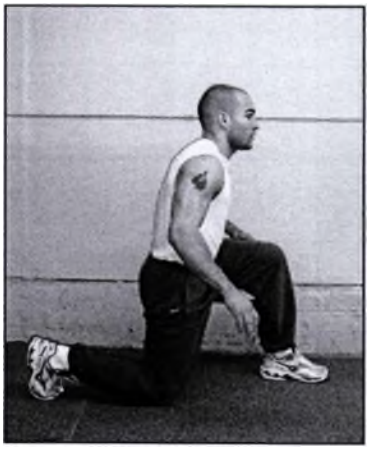
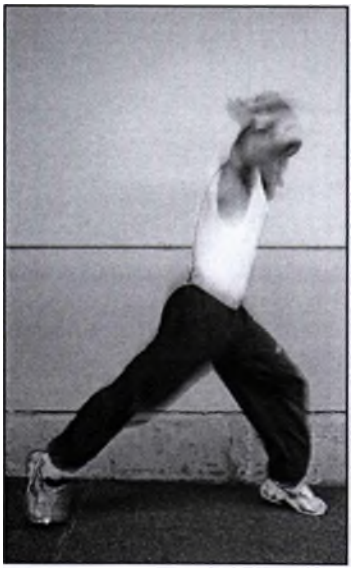
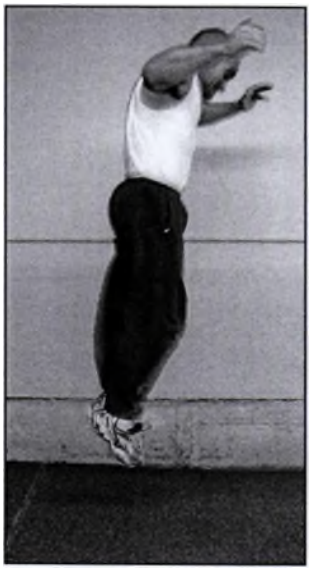
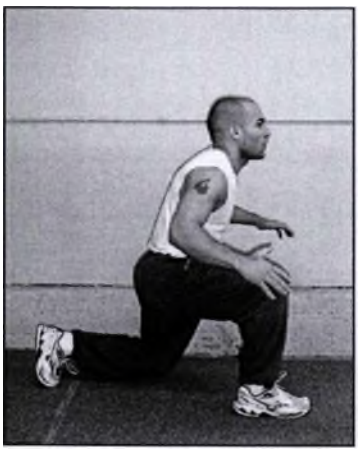
This exercise can also be performed with one leg at a time.

The **long jump** (also known as the broad jump) offers an effective way to develop the lower body, while also providing a means of testing lower body power. Squat partially, with the arms back to initiate the movement. Generate power from the legs and hips as the arms swing forward. Strive to maximize the length of your jump. This exercise can be performed with single repetitions where you rest briefly and reset between each jump, or you can land quickly and immediately turn around with another jump. The latter method emphasizes foot speed and agility, as opposed to pure explosive strength.

The **lunge jump** is an athletic movement that will require coordination and power. Begin in the traditional lunge stance. Drop down a few inches, and explode into the air. Jump as high as possible, allowing time to shift the legs in mid-air. The front leg will become the back leg upon landing. You will land in the lunge position, with your feet reversed from the beginning position. Upon landing, immediately explode into the air for the next repetition.

Each of the jumping exercises from this chapter can be used to enhance lower body power. If you are looking to develop your vertical jump, simply choose 3 to 4 of these exercises. Perform 3 to 4 sets of each exercise that you choose. Keep the rep range moderate (ex. 10 to 20 repetitions). Focus on maximum power output during each repetition.

Perform this workout two or three days per week. You will be surprised at the improvements that you can develop with such a simple training plan.

Summary

As you can see, low-tech training methods can be used to develop numerous strength qualities. Whether your interest is pure strength, power, or endurance, you do not need an elaborate gym set-up to accomplish your goals.

Incorporate variety into your lower body workouts to ensure proportional development of each strength quality. You must also ensure the legs are well balanced. Do not focus all of your attention to quad dominant exercises such as the squat. There is much more to lower body training than the bodyweight squat. Do not limit your arsenal to one movement.

ISOMETRICS

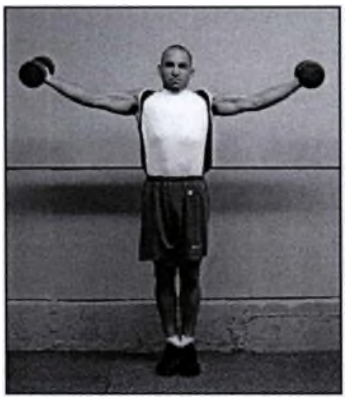
"A man of knowledge lives by acting, not by thinking about acting." - Carlos Castaneda

After years of hibernation, isometrics are once again gaining steam in the strength and conditioning industry. A simplified definition states that isometrics involve exerting force against a stationary object. Throughout the isometric action, the length of the muscle does not change.

Two examples of isometrics include:

1. Holding a weight in a motionless state or maintaining a static position. For example, holding dumbbells out to the side in the crucifix position is an example of isometrics.

   A bodyweight example can be seen when holding a static position on the pull-up bar. For example, the one-arm static hold from page 52 is an isometric exercise.



2. Another example of isometrics is the act of pushing or pulling against a stationary object. For example, pushing against a wall involves an isometric contraction. No movement takes place, as the wall is immobile.

Isometrics are a valuable means of strength development. You can achieve a quality strength workout with little or no equipment.

Many have dubbed legendary strongman Alexander Zass the *Father of Isometrics.* As a prisoner of war during World War I, Zass developed tremendous strength by pulling and pushing on the bars and chains. Years later, Zass became famous for promoting isometrics through popular mail order courses.

As a result, isometrics became popular for many years. Bruce Lee was one of many athletes who took a keen interest in the effectiveness of isometric training. Unfortunately, as bodybuilding methods became more popular, isometrics were slowly abandoned. Many trainers and athletes simply did not (and do not) understand the potential effectiveness of isometric training.

Today's trainers are brought up with the belief that isometrics are ineffective. Perhaps the most popular argument against isometrics is related to joint angle specificity. It has long been thought that isometric muscle actions will only strengthen the joint angle being trained. For example, suppose you positioned yourself inside a door entrance. You reach up to the door jam and begin pressing overhead. There is no movement, as the door jam is immobile. Critics of isometrics contend that you will only gain strength in this specific joint angle. If you were to lift an object a few inches above or below this joint angle, the strength gained from the isometric exercise will lack usefulness.

Fortunately, the argument regarding joint specificity only applies to the simple-minded trainers of the world. First, many recent studies suggest that isometrics will produce strength over a range of 15 to 20 degrees on either side of the training angle. Armed with this knowledge, plus a little commonsense, we can quickly develop a protocol that will allow for strength development throughout the entire range of motion. Simply train multiple joint angles. For example, train three joint angles for a specific movement. Suppose you were training an overhead isometric press. You could effectively develop overhead pressing ability by training the following joint angles:

1. Start at the bottom position of an overhead press.

2. Continue with a mid-range contraction. This would be the mid-point of the overhead lift. The arms would be partially extended.

3. Finish with an isometric contraction that approaches the peak range of motion. The arms will be extended almost completely overhead.

By applying this protocol, you can gain strength throughout the entire range of motion.

Let's now delve deeper and examine several aspects of isometric training.

I. Effectiveness

In the 1950's, Dr. Theodore Hettinger and Dr. Eric Muller established that a daily isometric effort at 66 percent of maximum intensity, held for six seconds, could increase strength by approximately 5 percent each week. Any training protocol that allows for a 5 percent increase in strength each week is clearly effective.

Another study examined the effect of weight training and explosive isometrics (together) on martial art kicks and palm strikes. The experimental group working with weights and explosive isometrics realized significant increases in both peak force and speed. This study confirmed that speed can be enhanced by supplementing your martial arts training with strength work and explosive-isometrics (Olsen, P.D & Hopkins, W.G, 1999). Fortunately, after reading this text, you can use bodyweight exercise in place of weight training. Therefore, you can produce noticeable improvements in kicking and punching speed without equipment.

II. Time Efficient Training

With isometrics, a strength workout can be achieved in much less time than conventional strength training. Lifting a weight overhead occurs in minimal time. Each joint angle is trained for a fraction of a second. With isometrics, you can target specific joint angles for several seconds. You can also recruit almost all motor units. A mere 5-second contraction at the starting, mid-range, and peak joint angle will require less than one-minute of your time. It would take several overhead lifts to produce the same maximal strength training effect.

III. Safety

Isometrics offer a safe alternative to maximal strength training in the weight room. You can train maximal strength without concern over losing control of a heavy load. You will no longer need help from a spotter.

IV. Measuring Progress

One of the complaints about isometric training is the inability to record progress. For example, suppose you are pushing against a wall. After a few weeks of training, how will you know if you are applying more force than when you started the exercise? Without an expensive dynamometer, you will be unable to measure the force generated during the exercise.

This potential drawback is easily overcome however. You should not limit yourself to isometric training. By working with other protocols, you can quickly realize the improvements generated from the isometric portion of your routine. For example, isometric training was instrumental in improving my overhead pressing ability. When I was lifting weights regularly in 2005, I used isometric presses to produce significant gains in dynamic pressing ability. The isometric training also assisted my handstand pushup training. Isometrics helped me push through several plateaus. Therefore, while I did not measure progress in

the actual isometric exercise, I was able to measure progress through gains in other related movements.

Another means of measuring the effectiveness of isometrics is by using this protocol to overcome sticking points in dynamic exercises. For example, suppose you are working on a new personal record on the bench press. Unfortunately, you can only press the bar six inches off your chest. At this point, you become stuck.

You can use isometrics to push through this *sticking point.* You can train this exact joint angle with isometrics. After targeting the sticking point for a few weeks, you will push through the plateau. Suddenly, you have another way to monitor progress.

V. Overcoming Boredom

After writing about isometrics in my previous book *Infinite Intensity,* I received several comments from readers who found the protocol too boring for regular use.

One reader wrote the following:

Ross, I understand the effectiveness of isometrics, but I dread the work. Do you have any advice to overcome the boredom of isometrics?

Isometric routines should be brief. Verkhoshansky recommends that one limit isometric workouts to 10-minutes or less (1977). A 10-minute workout is not long enough for boredom to set in.

As an athlete, you must keep your eye on the prize. Isometrics will produce worthwhile improvements in strength. The time requirements are minimal. Each contraction will only last a few seconds. These brief efforts should not be boring. Rather than focusing on boredom, you should focus on intensity. Put forth a true maximal effort and stop wasting time with excuses.

In addition, you are training for a greater cause. You are not training with the sole purpose of generating more force in an isometric contraction. You are using isometrics as one of many ways to improve your physical condition. This is all the motivation that I need to perform these exercises. There is no time for boredom. I am focused on a specific objective, not on smiling and enjoying myself as if I were on vacation.

I used static holds on the chin-up bar to help prepare for a one-arm chin-up. I cannot say that these static holds were enjoyable, but it sure felt great when I nailed down my first unassisted one-arm chin-up. I was not training with the purpose of holding static positions on the bar. I used this exercise to help prepare for a specific objective, an unassisted one-arm chin-up.

VI. Intensity

When training with isometrics, I recommend putting forth a maximal effort. Certain authors suggest different protocols however, such as putting forth 60 to 70 percent of maximal effort.

In my opinion, it is not possible to accurately gauge these percentages. Without a dynamometer, you will be guessing at whether your intensity is 60, 70, or 80 percent. When working with 100 percent, there is no speculation. Either you put forth a maximal effort or you do not. There is no in between.

Furthermore, research from Rasch and Morehouse in 1957, and Ward and Fisk in 1964 suggest that maximal voluntary isometric muscle actions are superior to sub-maximal contractions when training for strength increases (cited from Kraemer and Fleck, 2004). By working with 100 percent intensity, you will eliminate guesswork, while generating the greatest improvements in strength.

VII. Achieving Maximal Tension

Another commonly debated topic regarding isometric training is related to the speed at which one produces maximal tension. For example, suppose you were training with maximal voluntary isometric muscle actions (100 percent intensity). There are those who suggest easing into maximal intensity over the course of several seconds. Others suggest that you achieve maximal intensity as fast as possible.

I agree with the latter suggestion. I believe one should achieve maximal intensity as fast as possible. This protocol should be used when training both maximal and explosive strength qualities.

Before examining the science behind this recommendation, it is useful to consider the sport specificity of these methods. Suppose a fighter is about to throw a punch. The fighter must produce speed and power instantaneously. There is no time for gradual acceleration. One must explode with as much force as possible in minimal time. The muscle fibers must change from a state of relaxation to a sudden contraction *(remember the definition of starting strength).*

It only makes sense to train in a manner that is specific to your goals. Regardless of your sporting event, speed is essential. Without speed, strength and power are often useless. Consider a strong fighter who cannot hit his opponent. All the power in the world is useless if you cannot produce the speed necessary to land a kick or punch.

It should come as no surprise that science supports the rapid production of maximal tension. This protocol has been shown to produce positive adaptations in contractile muscle properties such as the excitation-contraction coupling pathway (Kraemer and Fleck, 2004). In layman's terms, isometrics will positively influence contractile muscle properties.

Why do some trainers recommend gradually achieving maximal intensity?

Many trainers make this recommendation for all forms of isometric training. Unfortunately, these individuals do not understand the different protocols required to develop each unique strength quality. For example, the protocol required to develop explosive strength is much different from that of absolute strength.

When training for absolute strength, Verkhoskansky recommends that force be gradually applied to the immobile structure. Explosive strength requires a unique approach however. When training for explosive qualities, tension should be applied quickly (1977). Furthermore, as mentioned earlier, excess development of absolute strength will negatively influence qualities such as speed strength. As an athlete, you cannot afford to lose speed for the sake of absolute strength via isometric training.

VIII. Duration

At this point, we know the isometric contraction should reach maximal tension as fast as possible. The next question is about duration. Once tension is achieved, how long should it be maintained?

The answer to this question will depend on the strength quality being trained. For example, I often train with brief isometric holds. These contractions will last between 1 and 3 seconds. This *explosive isometric* protocol is ideal for the development of explosive strength and speed strength. When training starting strength, you will use even shorter bursts of intensity. As mentioned earlier, starting strength is produced under conditions of isometric muscle action. Starting strength represents the force developed within 30 milliseconds of beginning a contraction. This is not much time, hence the importance of brief, yet intense bursts (ex. .5 to 1.5 seconds).

For example, the starting phase of a punch can be trained with this protocol. Position yourself in front of a wall or door entrance. Place your hand in the starting position of the punch. Produce force quickly and powerfully for a brief 1-second burst. This starting strength protocol is most important at the beginning of the punch (where the muscle action *starts).*

At first glance, it may seem odd that isometrics can improve speed, even though no movement takes place.

How can you improve speed with isometrics?

The answer to this question deals with *intention.* Behm and Sale (1993) found that repeated *attempts* to perform ballistic contractions and the high rate of force development of the ensuing contraction were the primary stimuli for a high-velocity training response to occur. The type of muscle action (isometric or concentric) was of less importance. The *intention* to move fast was more important to speed development than the actual speed of movement.

Maximal strength can be trained with slightly longer contractions. When training this strength quality, you can approach approximately 5 seconds of maximal force contraction. This protocol is commonly referred to as *maximal effort isometrics.*

At first glance, you may be thinking that 5 seconds is not enough time for significant strength improvements. Five seconds offers plenty of time however when you are putting forth a maximal effort. Longer duration (ex. 10+ seconds) isometrics are usually not necessary. Such a protocol has been shown to negatively influence speed, coordination, and muscle elasticity. To avoid these effects, Verkhoshansky recommends limiting isometric contractions **to no more than six seconds** (1977). The justification for this argument is simple, when you understand that the training protocol for absolute strength varies significantly from that of explosive strength.

Speed is essential in the combat sporting world. You cannot risk losing speed for the sake of extended isometric holds. You will gain plenty of strength with 5 second contractions, without risking negative effects to speed qualities. Losing even a split second of speed can be significant in the combat arena.

The only time that I use extended isometric contractions is when holding a static position, as opposed to pushing or pulling against an immobile object. For example, I will often hold the wall squat from page 96 for extended periods.

When my focus shifts towards maximal or explosive strength qualities, I use shorter, more intense muscle actions.

XIV. Enhance Dynamic Exercise

Isometrics can be combined with dynamic exercise to form a powerful static-dynamic protocol. This protocol involves the sequential combination of isometric and dynamic work. For example, begin with an isometric exercise (ex. wall press from page 120), followed by explosive dynamic work (ex. plyometric pushup).

The static-dynamic method of training is better for developing speed strength than dynamic exercise alone. The effectiveness of dynamic work can increase by as much as 20 percent in comparison with work executed without preliminary static tension (Verkhoshansky, 1977).

If you do not wish to perform separate isometric workouts, you should at least exploit the benefits of the static-dynamic protocol.

X. Frequency

Isometric training can be used frequently if the sessions are brief. Isometrics are stressful to the nervous system, hence the importance of quality over quantity. The research cited earlier from Hettinger and Muller indicates that daily isometric workouts can lead to significant increases in strength. J. Atha came to a similar conclusion in 1981, also establishing that daily isometric training is favorable for strength development.

Unfortunately, long-term studies regarding the effectiveness of isometrics are practically nonexistent. Furthermore, it is important to understand how many scientific studies are performed. If I am conducting a study to establish the effectiveness of isometrics on strength development, I will eliminate all other aspects of strength training. If I were to continue with other exercises such as weight lifting or advanced bodyweight exercises, the results from the study would be compromised. For example, suppose my overhead pressing strength increased by 10 percent after three weeks of training. It would be impossible to identify the true cause of this improvement. Did my strength improve because of the isometric training, or did weight training and handstand pushups play a more significant role?

Based on this uncertainty, I would be forced to remove other strength training methods throughout the experiment. Focusing solely on isometrics would allow me to accurately gauge the improvements related to isometric training.

Sounds good, right? Not necessarily...

As an athlete, you will perform several workouts each week. A typical 7-day block may include conditioning exercises, strength training, sport practice (ex. sparring), partner drills, and more. Many athletes are already dealing with a busy schedule. It is not possible or practical to add another 7 workouts to the mix by performing isometrics daily.

While the workouts may be brief, the impact to the central nervous system must not be overlooked. You will already be stressing the nervous system with your existing workload. Adding more *ingredients* to the *training recipe* must be done with caution.

Typically, I do not recommend daily isometric training. I find 3 to 4 brief isometric workouts per week to be a more reasonable and effective strategy for long term development. I formed these beliefs after experimenting with several protocols, and after studying the research from many of the world's top sports scientists. For example, highly praised scientists Kraemer and Fleck stated that the most efficient use of isometric training would involve maximal voluntary muscle actions, each held for approximately 3 to 5 seconds. The recommended frequency is three sessions per week (2004).

As mentioned earlier, these isometric workouts should be brief. I typically train each joint angle with 4 to 6 reps. For example, an overhead pressing sequence could involve the following:

- Starting-range contraction x 5 seconds
- Mid-range contraction x 5 seconds
- Peak-range contraction x 5 seconds
- Rest briefly, and continue 4 to 6 times

Between reps, I will shake out the arms to stay loose. I keep rest periods relatively brief between each joint angle. I will then rest for approximately 30 to 60 seconds before repeating the entire sequence.

If you prefer to train several exercises in one workout, you should reduce the number of repetitions for each joint angle. For example, you could instead hold each joint angle for a single 5-second contraction. Such an approach will allow you to train the entire body in minimal time.

Suggested Protocols

Let's now examine a few methods that you can use to incorporate isometrics into a more well-rounded weekly routine.

1. <u>Perform mini-workouts</u>

One option for isometric training is the use of several mini-workouts throughout the week. I often apply this system. I will perform a 10-minute isometric workout early in the morning, every other day. For example, I may perform a brief isometric workout early on Tuesday, Thursday, and Saturday. These workouts are brief, yet extremely effective.

Time will not fall out of the sky, but if you look hard enough, you can certainly make time for 10-minutes of training.

2. <u>Use isometrics to overcome sticking points</u>

I also use isometrics to overcome sticking points in other exercises. As mentioned earlier, I used static holds on the chin-up bar to help develop the strength necessary for a one-arm chin-up. I performed these static holds during my traditional workout. I would start with static work on the bar before continuing with other pull-up and chin-up exercises (ex. weighted chin-ups). The workouts would include a mix of static and dynamic work.

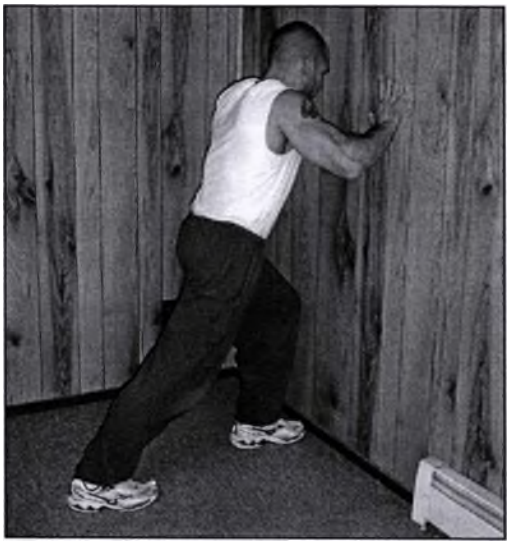
3. <u>Exploit the power of the static-dynamic protocol</u>

Isometrics can also enhance explosive strength workouts. An isometric contraction renders a positive after-effect within the central nervous system. This after-effect enables tremendous increases in strength and speed. The dynamic movement becomes much more effective when performed after the isometric hold.

For example, you could perform an isometric press against a wall, and then continue with a set of plyometric pushups. The plyometric pushups (dynamic) become more effective when performed after the isometric contraction.

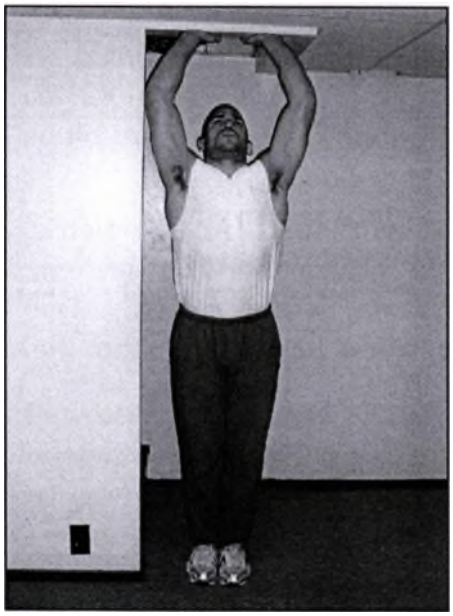
Equipment

One of the beauties of this modality is that equipment is often unnecessary. Almost anything can be *converted* into an isometric device. For example, a wall serves as a valuable isometric tool.



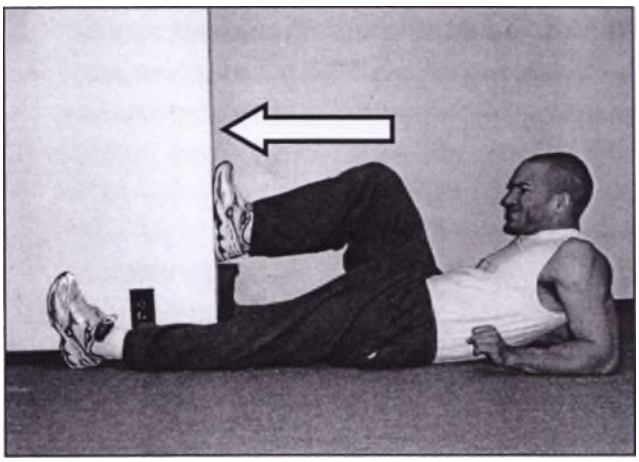
Press against the wall to target the chest, shoulders, and triceps. When performing these isometric exercises, breathe lightly. Do not hold your breath.

This **wall press** makes an ideal choice for the static-dynamic protocol. Start with a brief wall press and continue with a set of plyometric pushups.

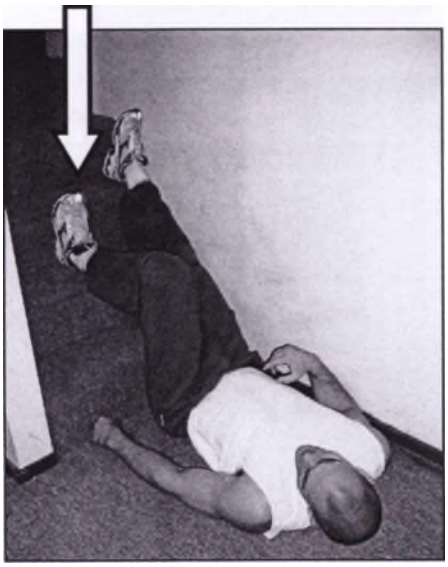


The **overhead press** offers a tremendous way to strengthen the shoulders without equipment. Stand between any door entrance and press overhead. Stand on a small stool or a stack of books to vary the joint angle.

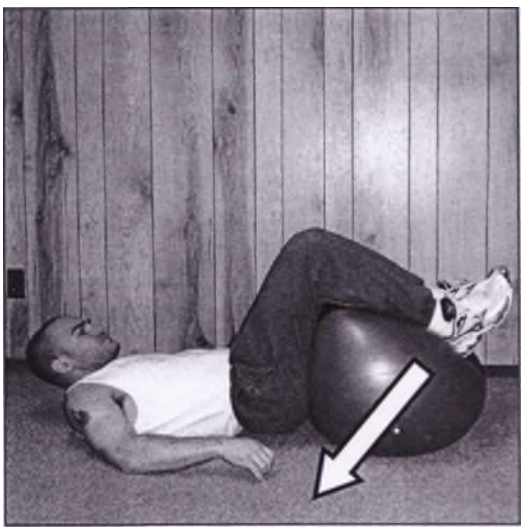
I gained significant strength with this exercise. The strength gains carried over to my handstand pressing ability as well as my overhead weight lifting strength.



The lower body can also be trained without equipment. A **leg press** can be performed against any sturdy wall. As you can see, I press one leg against the wall, while the upper body remains tense against the floor to prevent the body from sliding.



An isometric **leg curl** can be performed against any bench and even a staircase. Press the foot down, as if you were performing the modified hamstring curl from page 104. The difference is that you will not lift the body into the air. You will instead produce maximum tension in the hamstrings from a static position. The entire body will remain tense as you press down with all of your strength.

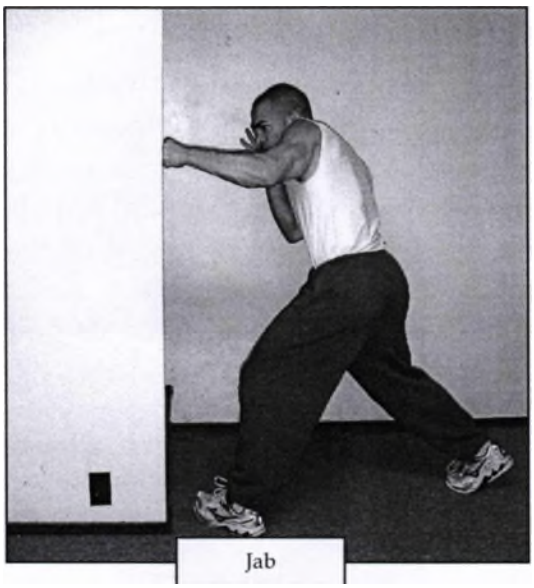


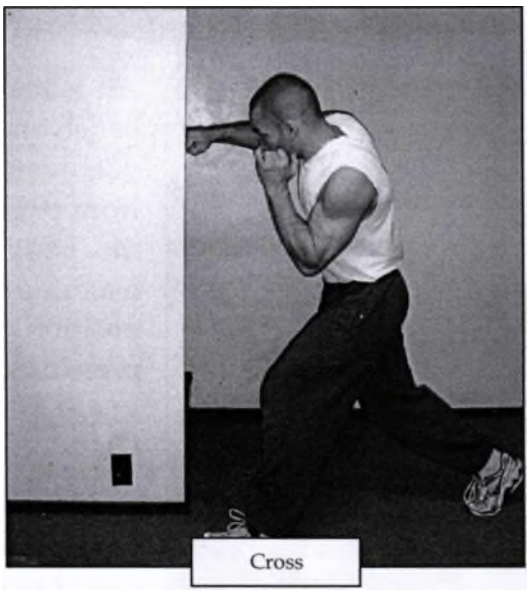
The **hamstring curl** can also be performed with a stability ball or even a large pillow. Place the ball under the legs and squeeze the feet in towards the butt.

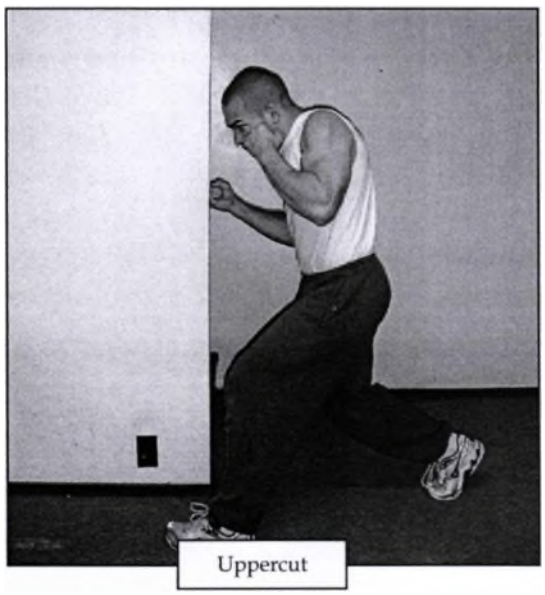
This is a tremendous exercise to build strength in the hamstrings. It is particularly useful for those individuals who are unable to perform the glute-ham raise.

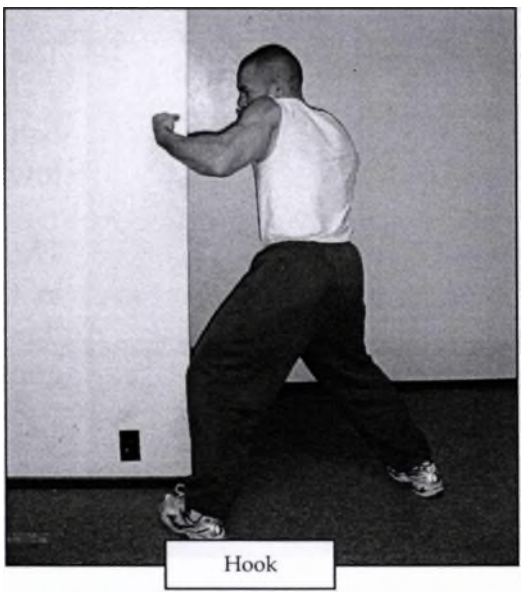
Isometrics can also be used to develop strength in sport specific movements such as punching. Starting strength is useful, as each punch will start from a static position. Therefore, the starting joint angle of a punch is particularly important when training *isometric punches.* You can also work with mid-range and peak-range angles for straight punches such as the jab and cross.

The nature of the hook and uppercut make beginning and mid-range angles more practical. The peak-range angle is not necessary. Each strike is considered a *short punch,* ideal when fighting at close range (ex. when a boxer is fighting against the ropes).


Jab


Cross


Uppercut

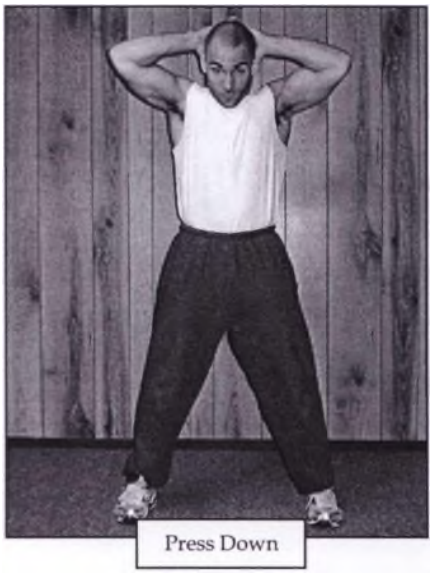

Hook

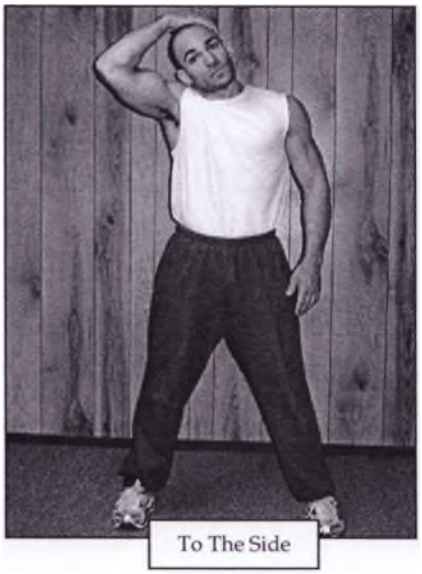
Isometrics also offer a safe way to develop a strong neck. The exercises below are an effective alternative to neck bridging and weighted neck harnesses.

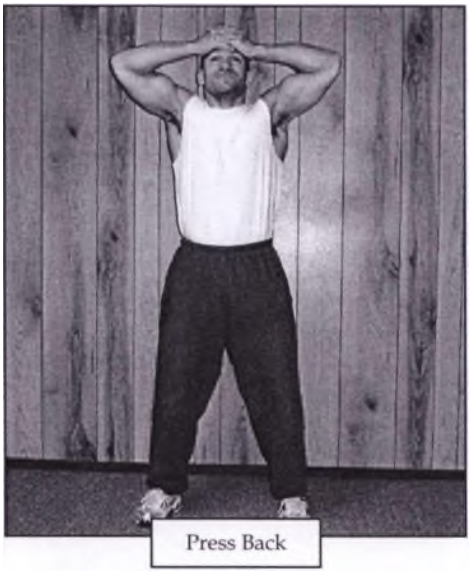
Train each direction when working the neck. Press down with the hands, while opposing the resistance by pushing back with the neck. You should then work to the right and left, and finish by pushing back with the hands while resisting the tension by pressing the head forward.

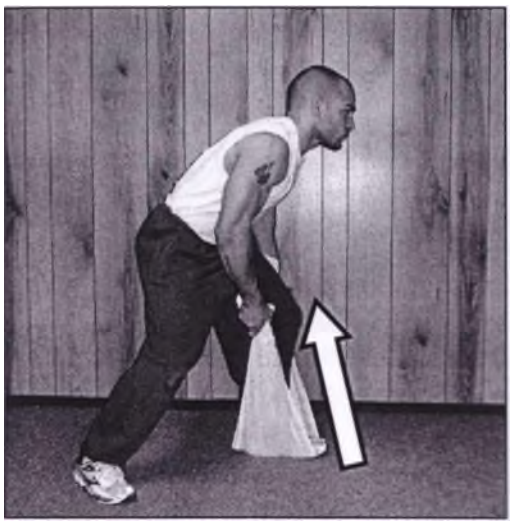
A sample neck workout could include:

- Press Down x 5 seconds
- Press Right x 5 seconds
- Press Left x 5 seconds
- Press Back x 5 seconds
- Rest briefly and repeat the entire circuit 3 times

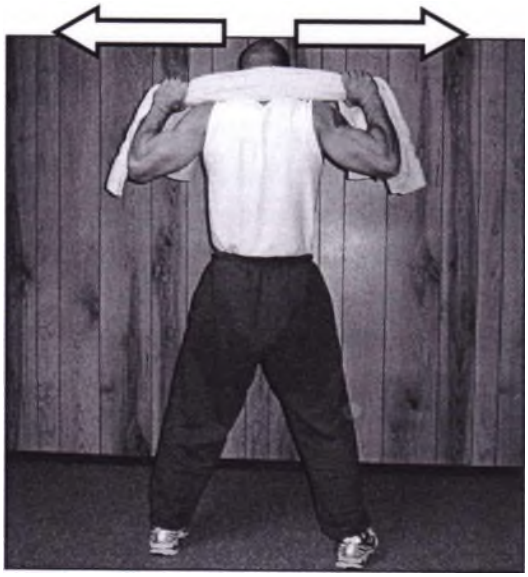




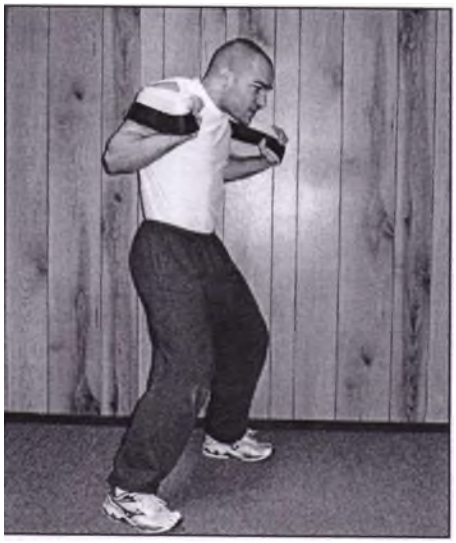




Even a towel can be used as an effective isometric tool. The **bent over row** is an effective exercise for the upper back and arms. The towel will also add a grip strength element to the exercise.



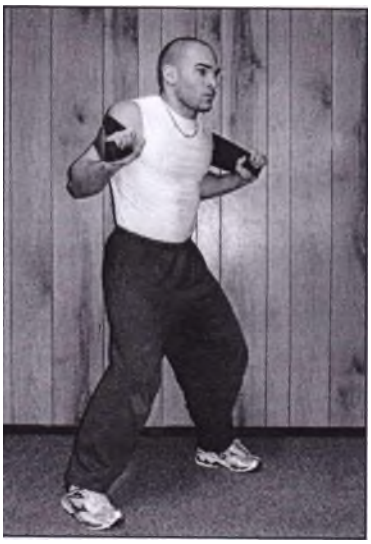
Another upper back exercise can be performed by pulling the towel in opposite directions. Simply position the towel behind the head while pulling hard with both arms.



Resistance bands can also be used for isometric exercise. Simply overload an exercise with *more band* than you can move.

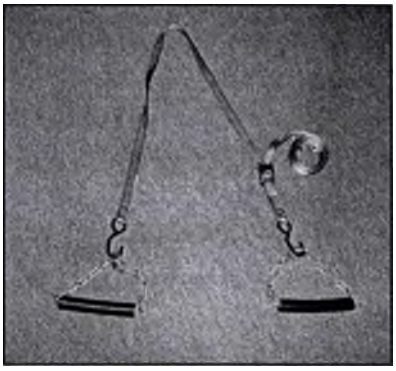
For example, in the illustration I have wrapped two bands around my back and attempted a chest press. I have combined a strong band with an extra-large band. The two bands together prevent me from achieving full extension.

Band isometrics provide more *give* than a solid wall. You can overload almost any movement with the right bands (ex. extra-large resistance bands).



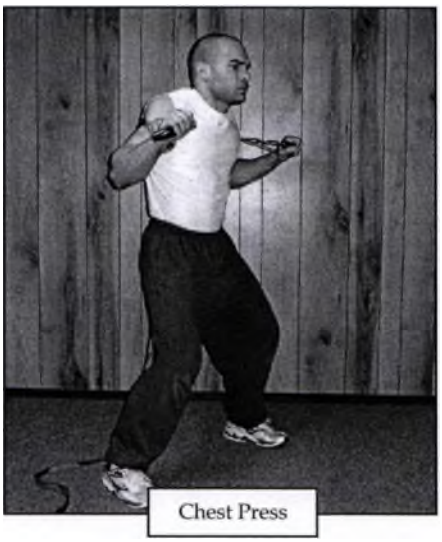
The isometric band press can be combined with a full range band press to exploit the benefits of the static-dynamic protocol. Begin with a static hold, and continue with a full range press.

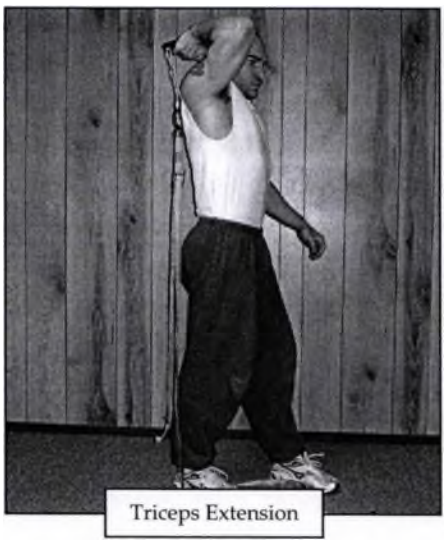
As you can see, I have removed one band to allow full extension. Explode with the **chest press** to develop properties such as acceleration strength.

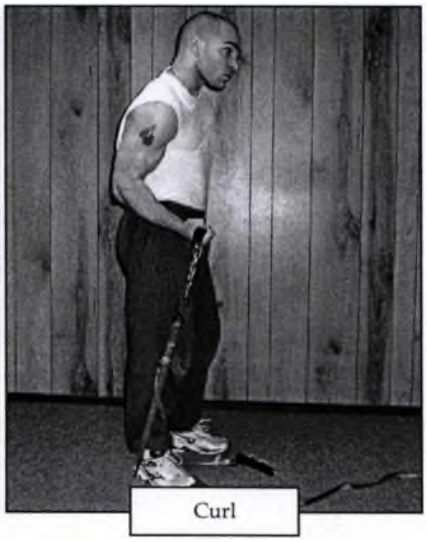


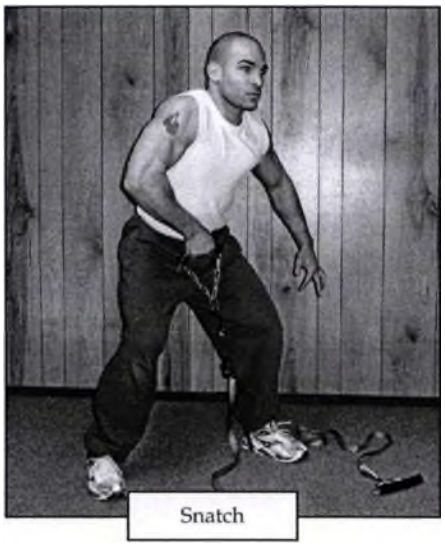
The tow straps seen earlier for exercises such as the body row can also be used for several isometric exercises. You can adjust the length of this device quickly with the cam buckle.

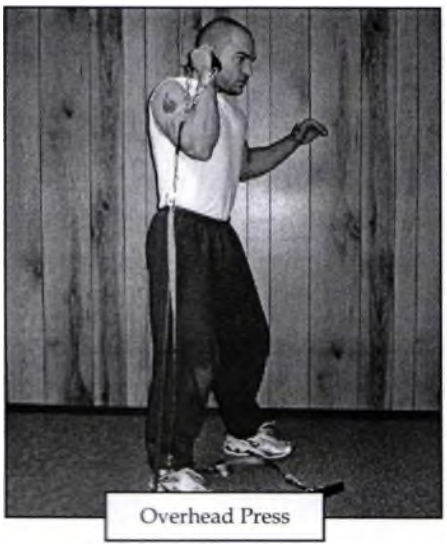
Sample exercises are provided below. As you can see, your options for isometric training are only limited by your imagination.

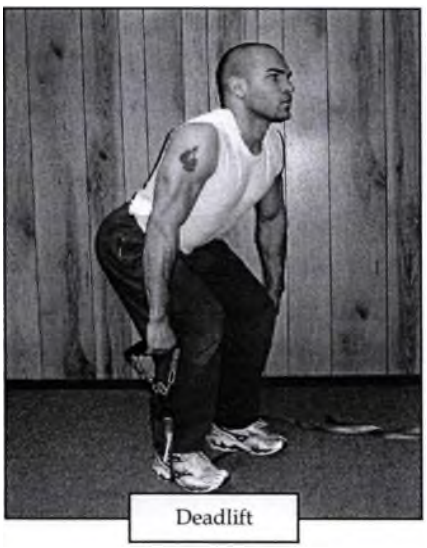

Chest Press

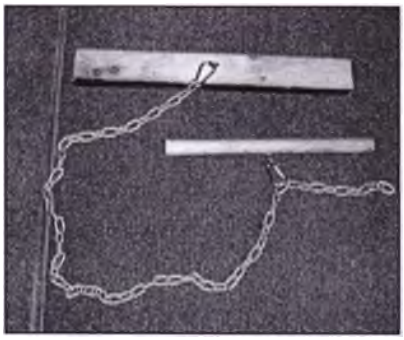

Triceps Extension


Curl

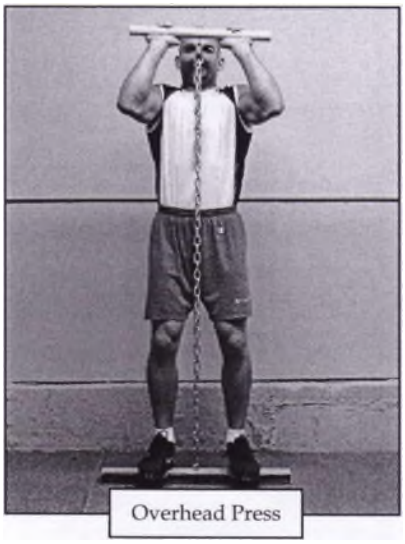

Snatch


Overhead Press


Deadlift



To those unfamiliar with my *Infinite Intensity* manual, I illustrated another isometric device that can be constructed by using a piece of chain to connect a piece of 2x4 inch wood to a 1.5 inch dowel. The chain will be attached to a screw eye secured in both pieces of wood. The length of the chain can be quickly adjusted by using a spring link.



This device was popularized by Bob Hoffman, founder of York Barbell, in his program *Functional Isometric Contraction - Advanced course.* Bruce Lee also used a similar tool. Illustrations of Lee using this isometric tool are provided in the informative book *Bruce Lee - The Art of Expressing the Human Body.*

The wood and chain device can be adjusted to train almost any free weight exercise.

Summary

Despite proven results, critics will continue to discredit the effectiveness of isometric training. Unfortunately, these opinions originate from individuals who have never trained with isometrics.

I have experienced considerable strength gains from isometrics. No one is suggesting that your routine should be limited to isometrics. On the contrary, isometrics should form a small piece of a diversified training plan.

One often referenced study from A.P. Slobodyan (1973) suggests that 10 percent of one's training be dedicated to isometrics. Even with frequent isometric workouts, the total percentage of training time will still be minimal due to the brief nature of the routines (ex. 10-minutes or less). Regardless of what many critics contend, isometrics are ideal for strength development. A few brief workouts per week will lead to considerable improvements in strength. Find time for isometric training.

A POWERFUL CORE

"Do not confuse motion and progress. A rocking horse keeps moving but does not make any progress." - Alfred A. Montapert

Despite its current *fad* status, the basic premise of core training is significant and highly relevant to all athletes. Unfortunately, the marketing gurus of the world have created a *core craze* and polluted the market with ridiculous gadgets and gimmicks. These overpriced products are deceivingly marketed as essential tools for the development of six-pack abs. Tune into any television infomercial and you are bound to see the latest and greatest in core training technology. These bogus products are about as useful as a bikini in a blizzard.

The unfortunate result of the *core craze* is twofold. ***Consumer A*** purchases one of these tools and eventually realizes the product is worthless. As a result, he gives up on core training entirely, assuming it is just another useless marketing invention. At the other end of the spectrum, ***Consumer B*** laughs at the core gadgets that have littered the market. Rather than wasting his time, he returns to his old school method of sit-ups and crunches, hoping to never hear the words *core training* uttered again.

While sit-ups and crunches surely beat the infomercial rubbish, neither movement constitutes a complete core routine. The core includes much more than the superficial rectus abdominis (the muscle which forms the six-pack). A complete core program must also target the internal and external oblique muscles, the transverse abdominis, the multifidus, the erector spinae muscles, the quadratus lumborum, and the iliopsoas. Many core movements will also require work from the rectus femoris, gluteus maximus, and hamstrings.

Exercises such as the crunch and sit-up do in fact offer *some* benefits, but clearly not enough. These exercises fail to address many of the movement patterns associated with the core. Primary movements of the core include extension, flexion, lateral flexion, rotation, and stabilization.

A core routine based solely on the crunch or sit-up will lead to muscular imbalances, as the low back is ignored. The core is an invaluable link between the upper and lower body. It is your center of mass. A strong core will minimize injury, provide stability, and enhance power production in all athletic movements. Whether you wish to increase punching power, kicking power, or power on the ground, a strong core is essential.

The Exercises

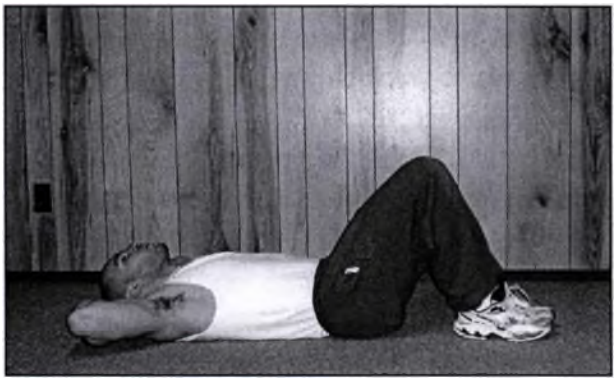
On the pages that follow, I have detailed several core exercises. It is important to incorporate variety into the core training routine. Many athletes make the mistake of limiting their core workouts to the same two or three movements. After reviewing this chapter, you will have more than enough core exercises to choose from.

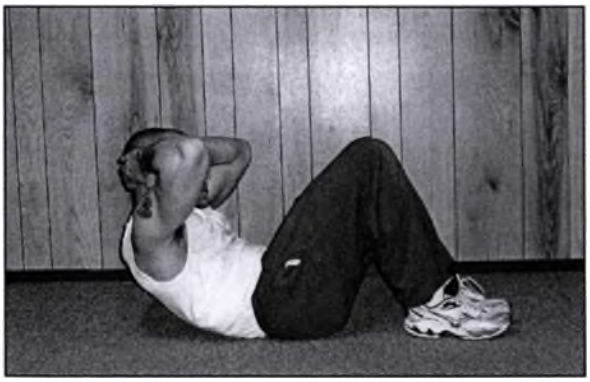
To begin this section, I have included several basic movements that you may already be familiar with. If this is the case, feel free to flip a few pages into the chapter to locate the more challenging movements. If you are beginner, the introductory exercises will prepare you for the more difficult exercises.

Let's start with the **crunch**. Everyone has performed the exercise, and many will continue to use the movement. If you perform crunches, I recommend using the protocol outlined below.

First, place the hands behind your head. The elbows will be out to the sides. You will then curl up, lifting the head, neck and shoulder blades from the floor. The hands should not provide any assistance. Do not pull with the hands.

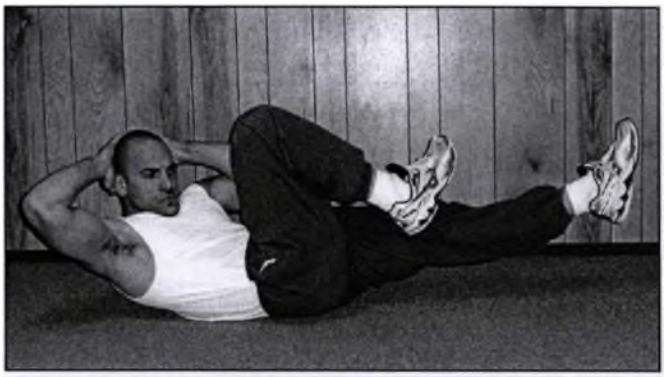
Upon reaching the upright position, I recommend pausing for 3 to 5 seconds. During this time, maximally contract the abdomen. Do not rep out high-speed crunches like an aerobic instructor. By pausing and achieving maximal contraction, the crunch becomes an effective exercise for the rectus abdominis.



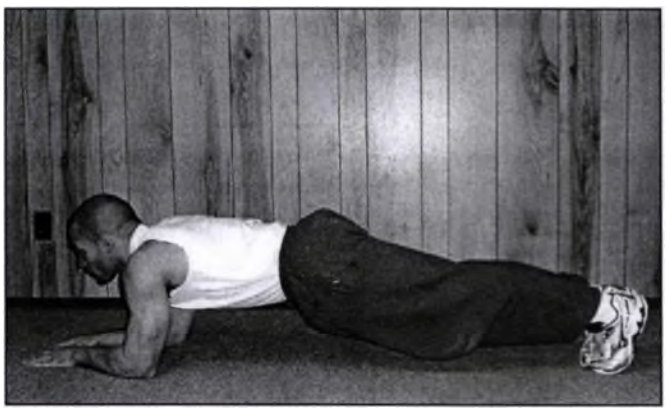


Next, we will review **chinnies**, an exercise that **should** be performed at a fast pace. The faster you move, the more you will feel this exercise.

To perform the exercise, bring the left elbow to the right knee, then the right elbow to the left knee. Continue back and forth, keeping a furious pace. It is important that your legs do not touch the ground until the set is complete.

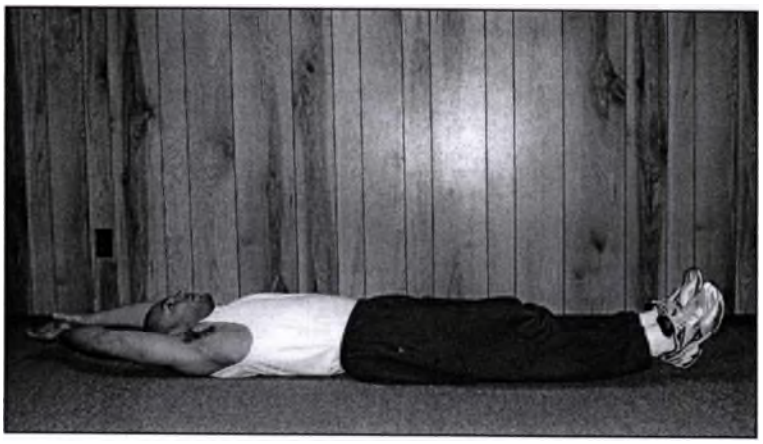
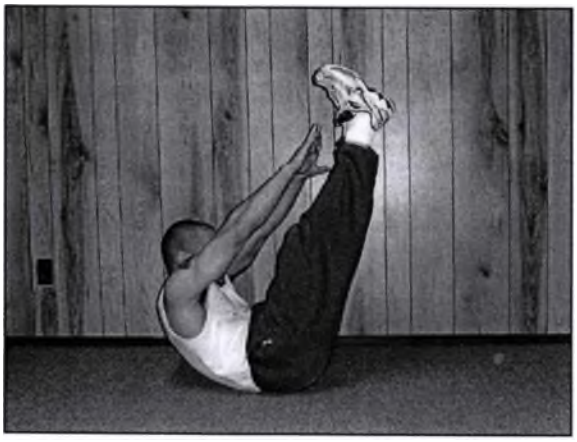


The **lying hip swing** will develop rotational strength. Lie with the legs pointed to the sky, with the arms on the ground, extended to each side. Maintain straight legs and swing all the way to the left, and then all the way to the right (this is 2 reps). Stop just short of touching the ground with the feet. Hold a medicine ball between the legs for a greater challenge.



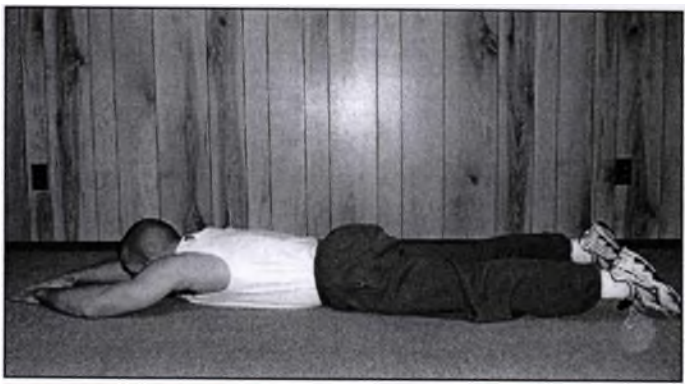
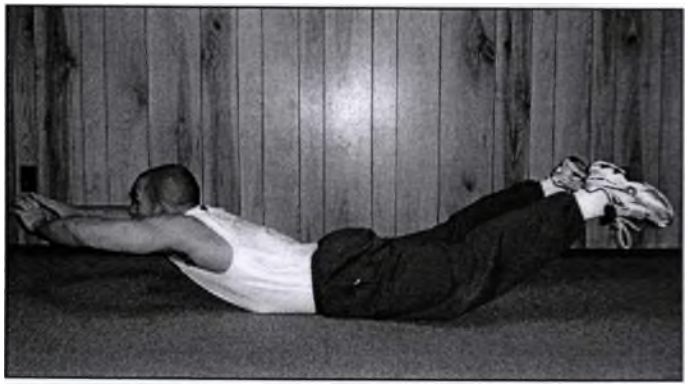
The next exercise involves a static hold (no movement). To perform the **plank**, start in a pushup position, and then drop the elbows to the ground. Only the forearms and toes should touch the ground. Keep your back straight and hold this position for time. Advanced athletes should be able to hold this position for several minutes.

The **V-up** is a slightly more difficult exercise. This movement begins from a supine position with the arms extended. Contract the abdomen, as you thrust the arms and legs together. The body will come together like the letter "V". The feet should not touch the ground between repetitions. Hold a medicine ball or weight to increase the intensity.

Shifting gears to the low back, the **bodyweight superman** is an excellent exercise for those individuals who have never trained this area. Low back pain is a common problem in the world today. One of the primary reasons is the sheer neglect of this muscle group.

To perform this exercise, begin lying face down with the arms and legs extended. Next, lift the arms and legs from the ground, pausing at the upright position.

We can create a beginner's core workout from the six exercises illustrated thus far. These workouts are ideal for those individuals who are new to core training. After several weeks, the beginner could advance to some of the more difficult exercises presented within this chapter.

Perform these workouts as circuits. You will move from one exercise to the next, minimizing rest between exercises. Rest approximately 60 to 90 seconds after the third exercise. Repeat three complete circuits. For example, when performing Workout I, you will start with a set of crunches, then perform a set of lying hip swings, and finish with a plank hold. You will then rest and repeat the circuit two more times (total of three circuits).

Workout I		
Exercise	**Sets**	**Reps**
Crunches	3	10
LHS	3	20
Plank	3	Time

Workout II		
Exercise	**Sets**	**Reps**
V-ups	3	15
Supermans	3	20
Chinnies	3	Burn

Workout I Notes

1. LHS stands for Lying Hip Swing
2. Pause at the top of each crunch for 3 to 5 seconds
3. Perform the plank for time. Strive to hold the plank for 60 seconds or more.

Workout II Notes

1. Perform a fast paced set of chinnies until achieving a nice *burn* in the abdomen.

A sample week could include:

Week I

Monday: Workout I
Wednesday: Workout II
Friday: Workout I

During the second week, alternate the workout sequence:

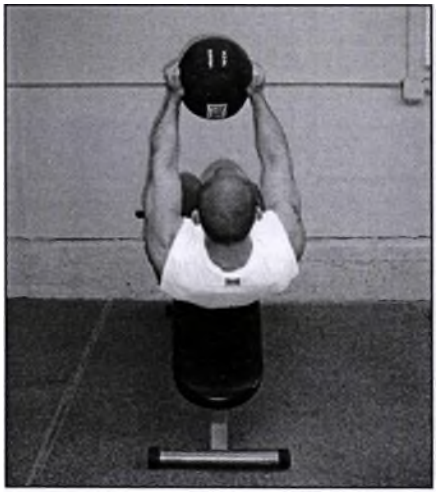
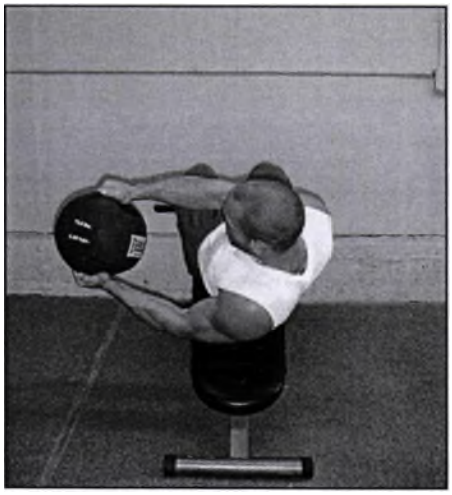
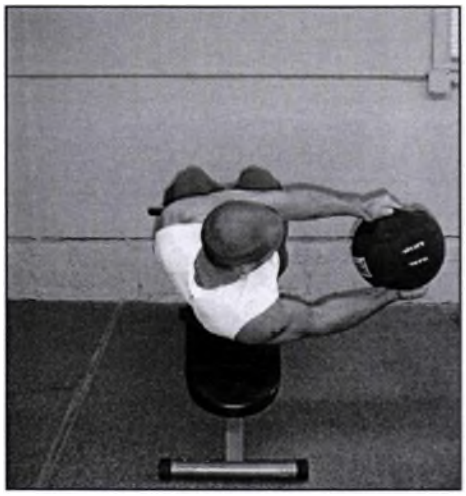
Week II

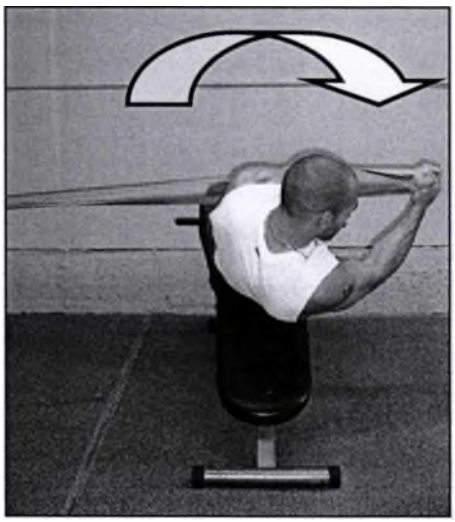
Monday: Workout II
Wednesday: Workout I
Friday: Workout II

Moving On

As you become proficient with the exercises presented thus far, you can add other movements to your repertoire. The **Russian twist** is an excellent choice for the development of rotational power. If possible, I recommend performing this movement from an incline position. Below, I have demonstrated the exercise with a medicine ball, while lying on an incline slant board.

Twist from side to side with the arms extended. Most individuals will require additional loading, either by holding a medicine ball or weight. The low back will remain elevated from the bench as you twist back and forth. This position will create tension throughout the abdomen. When twisting from side to side, keep your eyes focused on the weight.

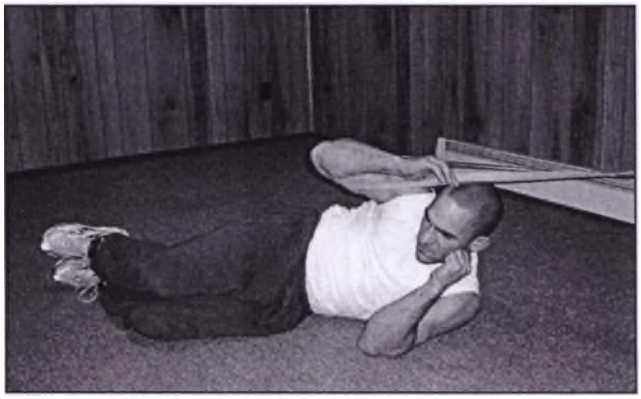


Resistance bands can also supply added tension to the Russian twist. Attach a resistance band a few feet from the body. You will work one side at a time for this variation. In the illustration, I twist from left to right. After completing one set, I will quickly turn the bench around, and twist from right to left.

The bands allow you to perform this exercise with considerable resistance. You do not need to hold a heavy weight. The band will also not be influenced by gravity. You must pull all the way through the exercise. This is a tremendous exercise for rotational power throughout the obliques.

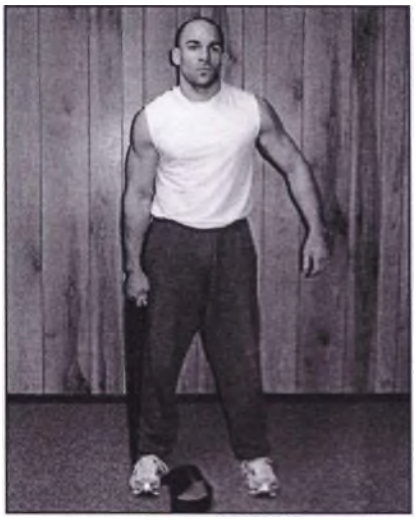
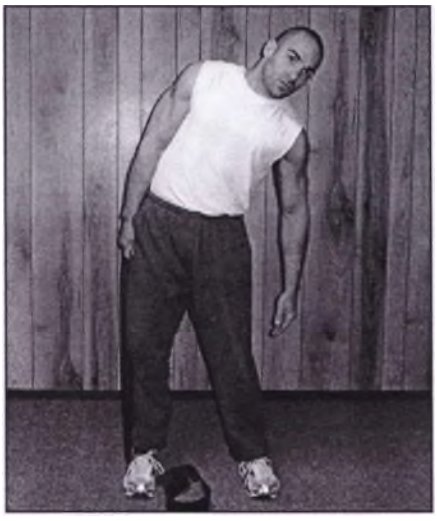
Resistance bands are perhaps the ultimate core training tool. Bands can enhance numerous core movements. In many cases, a light tension band will be all that is necessary. The pallet bands discussed earlier also work well. If you choose this option, I recommend a *high-tension* pallet band. I choose the *high-tension* pallet bands, as the resistance from a pallet band is nowhere near the resistance of a true high-tension band from a supplier such as Jump Stretch Inc. or Iron Woody Fitness.

Below, I have demonstrated a **side crunch** with the addition of a high-tension pallet band. I simply loop the band around my arm. Contract slowly, pausing at the top, as the band provides additional tension. Work both sides evenly.



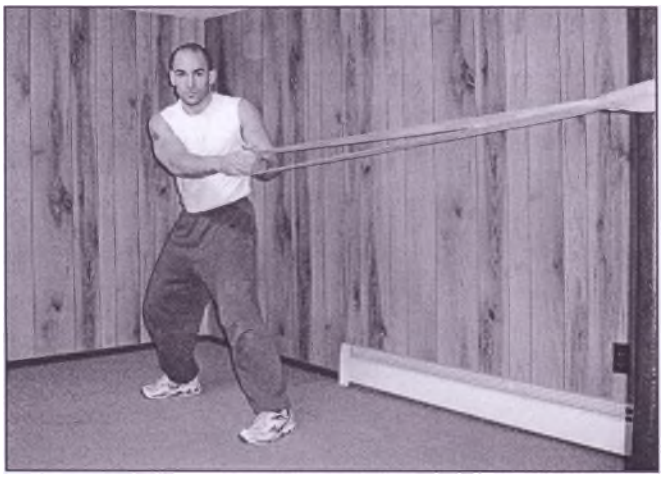
A more strenuous band can be used to replicate the dumbbell **side bend**. You will need considerable tension to make this an effective exercise. Either use several pallet bands, or choose a high-tension band from one of the providers referenced earlier.

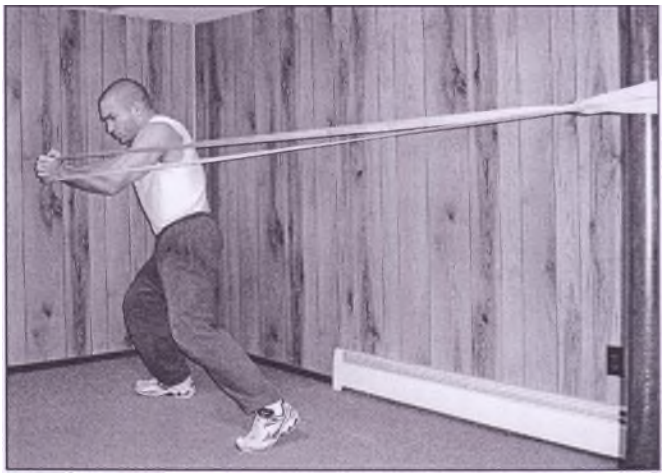
Grab one end of the band (or bands) in your hand, with the other end secured under the foot. Bend slowly from side to side without bending forward or backward. Work both sides evenly.

Bands can also be used to train the core while standing. Attach a band to an upright structure such as a pole in your basement, and you will have an effective core training station.

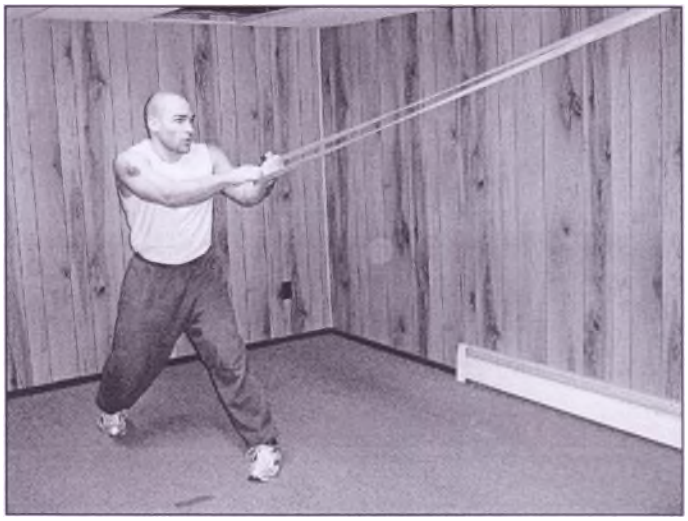
The **band twist** is ideal for rotational strength development. Begin with a taut band held to one side of the body. Pivot off the foot closest to the band, as you twist the body away from the band. Use the core to generate the movement. The arms should remain straight. You are not pulling with the arms.

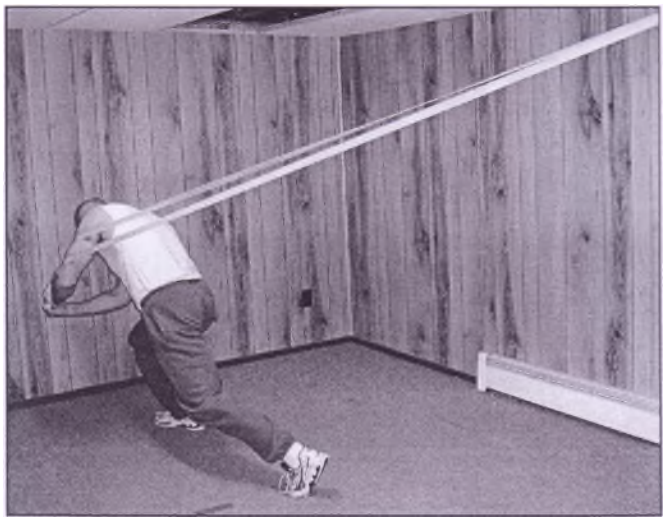




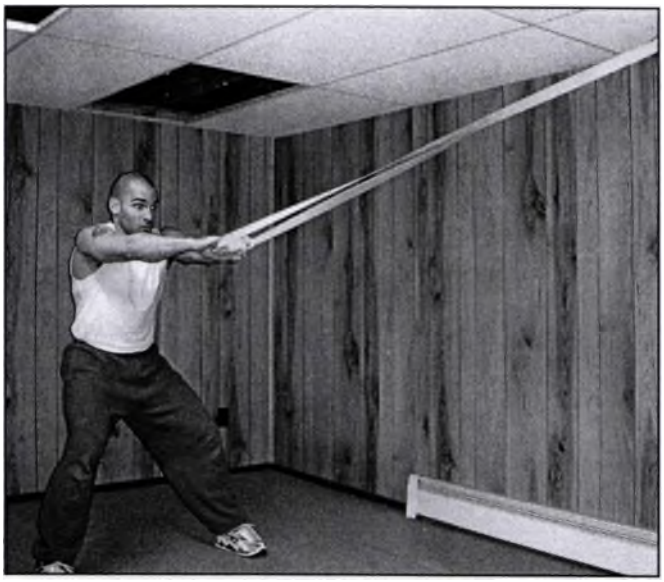
A (downward) **rotational chop** can also be performed with bands. Pull hard, as you rotate powerfully towards the ground. You will pivot 180 degrees with each repetition. Work both sides evenly.

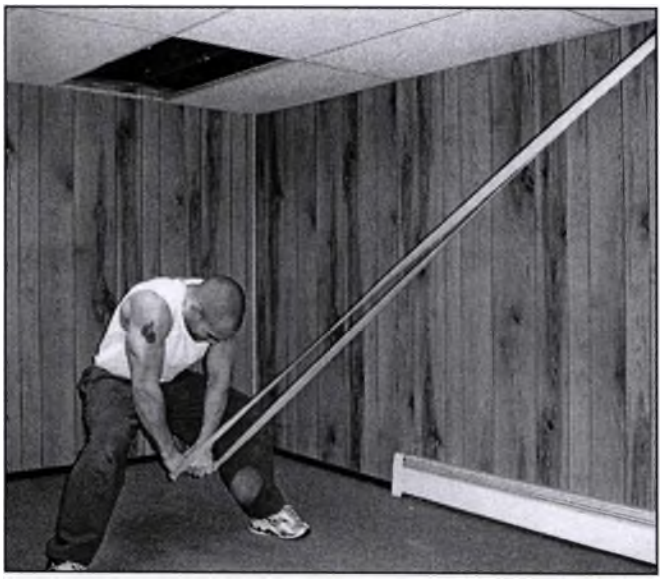
These exercises are highly effective, as the band provides constant resistance throughout the movement. There is no assistance from gravity or inertia. Such diagonal and rotational patterns are not possible with free weights. Inertia and gravity would take over, minimizing the effect of such a movement.

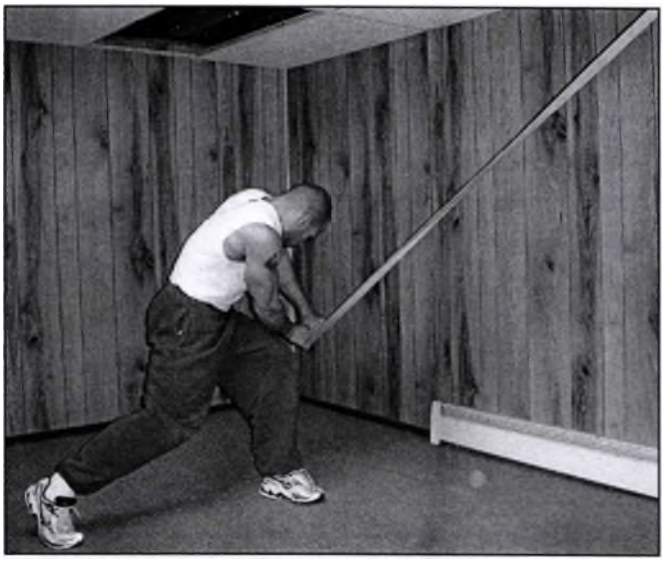




You can also perform a downward chop with bands. This exercise is similar to the medicine ball slam seen in the next chapter. It is an ideal substitute for the slam if a medicine ball is not available. I often integrate this exercise (**band slam**) into several conditioning routines. Pull hard on the bands, with as much force as possible. Maintain a brisk pace when working with this exercise.







A rotational component can also be included into the band slam. Pull the band hard to the left side, then to the middle, and then to the right. After pulling to the right, you would work back to the center, and then to the left again. Continue working from one side to the other.

Besides rotational work, bands are also excellent in developing the posterior chain. The **band pull through** will target the low back, hamstrings, and glutes. Begin by facing away from the secured band (or bands). Bend over and grab the band between the legs. From this position, pull the band through the legs until achieving an upright position.

Bands offer a nice addition to both beginner and advanced core workouts. For example, consider the two beginner workouts provided earlier. We can add two band movements to create a much-improved routine.

Workout IA		
Exercise	**Sets**	**Reps**
Crunches	3	10
Pull Through	3	15
Rotational Chop	3	10
Plank	3	Time

Workout IIA		
Exercise	**Sets**	**Reps**
V-ups	3	15
Band Slam	3	15
Band Twist	3	10
Chinnies		Burn

Workout IA Notes

1. Pause at the top of each crunch for 3 to 5 seconds
2. Perform 10 rotational chops per side (ex. 10 left, and then 10 right)
3. Perform the plank for time. Strive to hold the plank for 60 seconds or more.

Workout IIA Notes

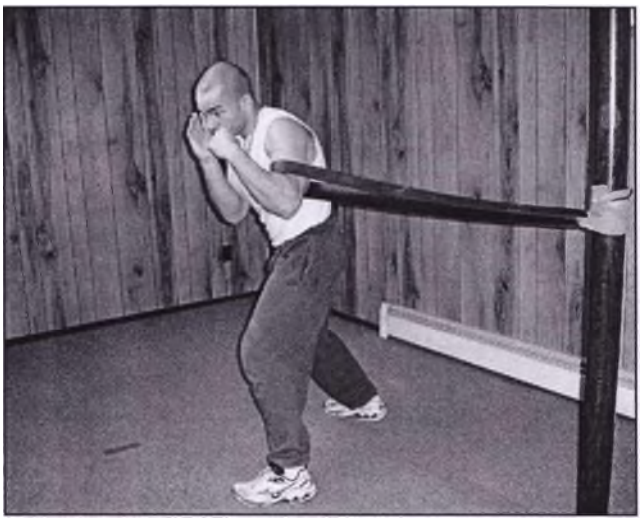
1. Perform 10 band twists per side (ex. 10 left, and then 10 right)

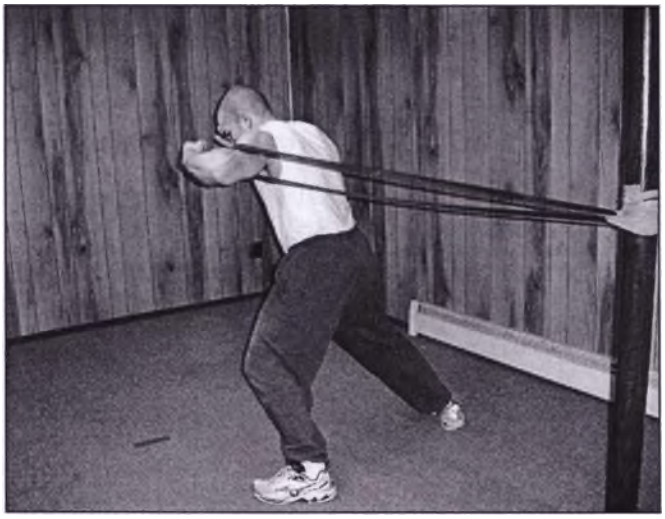
More *Core* Movements

It has long been known that core strength is imperative to power production in movements such as punching. Fortunately, resistance bands can be used to enhance punching power. You can train each punch with bands.

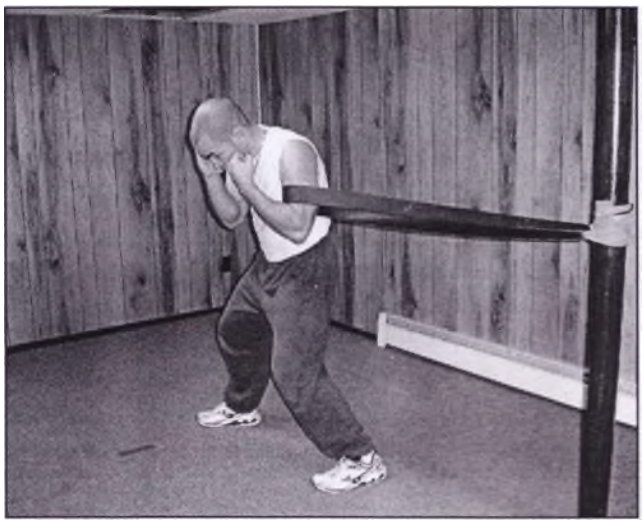
For hooks and uppercuts, loop the band around the middle of the arm. From here, throw the punch with full force. A high-tension band is ideal when training for power (ex. strong band from Jump Stretch Inc.).

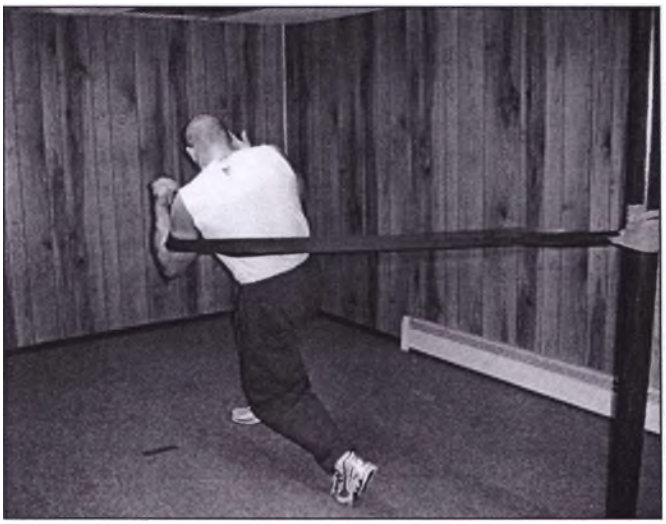
Left Hook





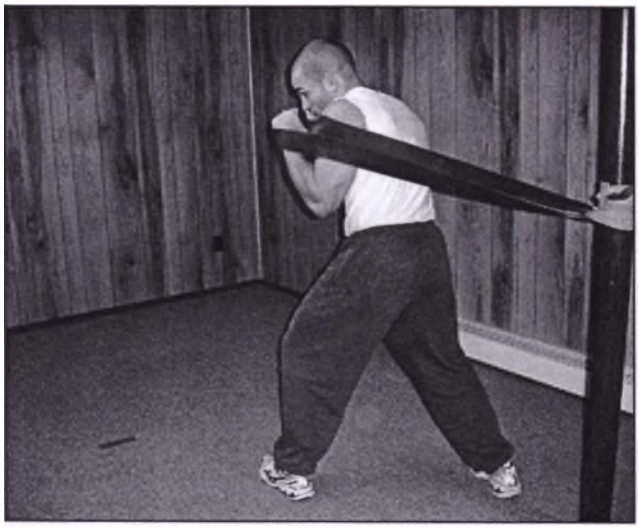
Uppercut (shown from southpaw stance)

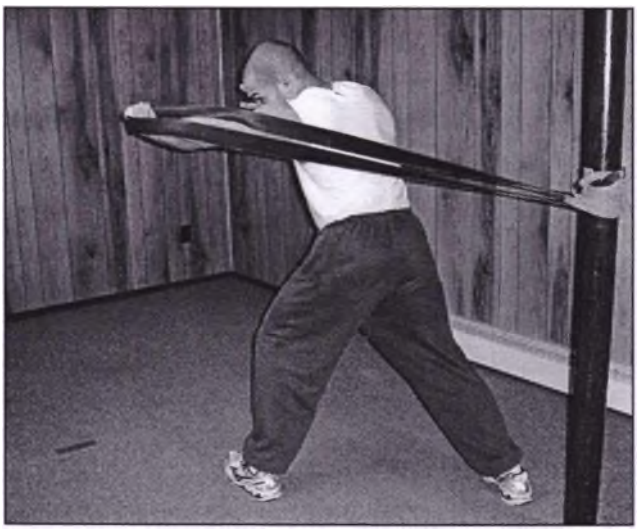




When training straight punches such as the jab and cross, you will hold the bands in the punching hand.

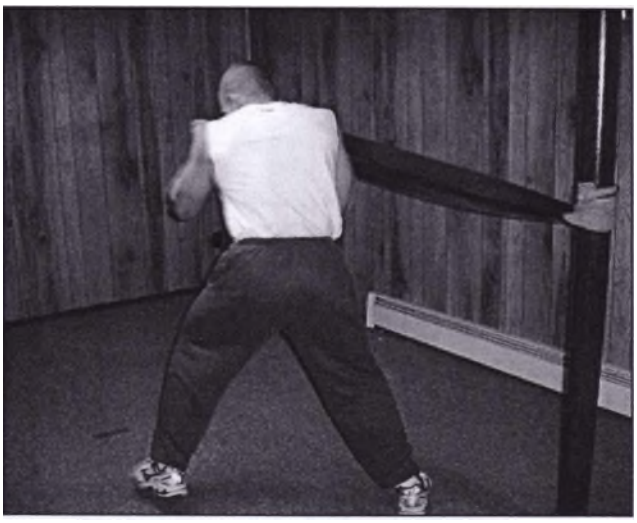
Left Jab

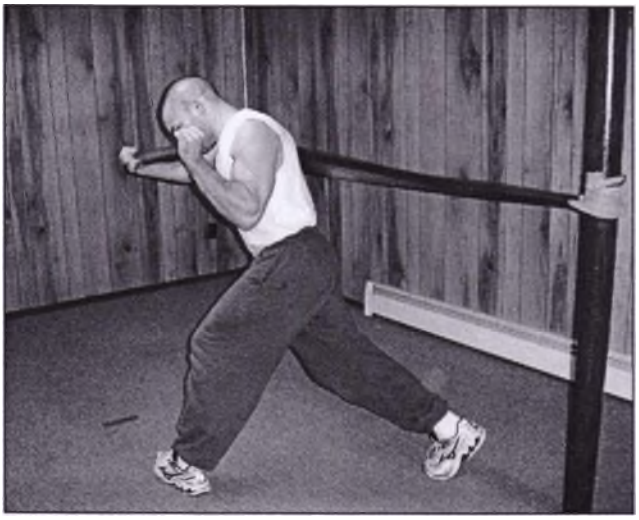




When throwing these punches, generate power from the lower body and core. Do not throw arm punches. The act of punching is a full body movement. Power starts at the ground and transfers throughout the body.

Right Cross

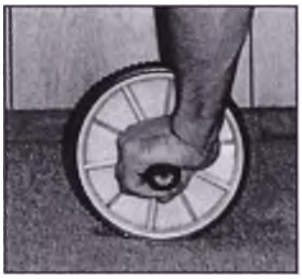




A sample punching power workout could include 4 sets of 8 repetitions for each of the four punches (ex. left jab, right cross, left hook, right uppercut). You could even start with isometric punches to benefit from the static-dynamic protocol.

Gadgets That Work

Thus far, the focus of this chapter has been effective core movements that do not require overpriced fitness gadgets. Yet, despite this theme, certain tools **can** serve as valuable additions to any core strengthening routine. The low-tech *gadgets* that follow will provide some of the most intense core workouts you have ever experienced.

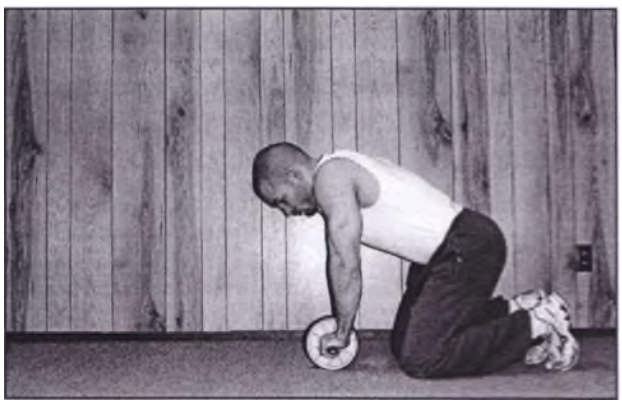


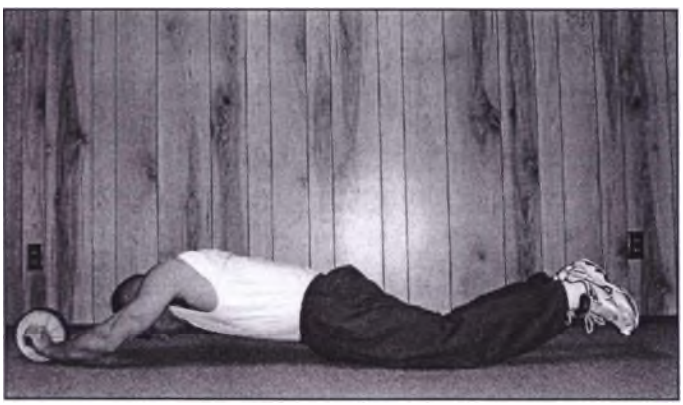
The abdominal wheel is one of the best core strengthening tools available. You do not need a high-end model to achieve a quality workout. I bought the wheel illustrated for $5. It has lasted several years and gets the job done. Check your local sporting good store.

If you do not want to buy an ab-wheel, I highly recommend building a homemade double wheel. You can build this device with basic supplies, available at any hardware store. These double wheels are useful for several one-arm variations. Expect to pay between $10 and $15 for each roller.

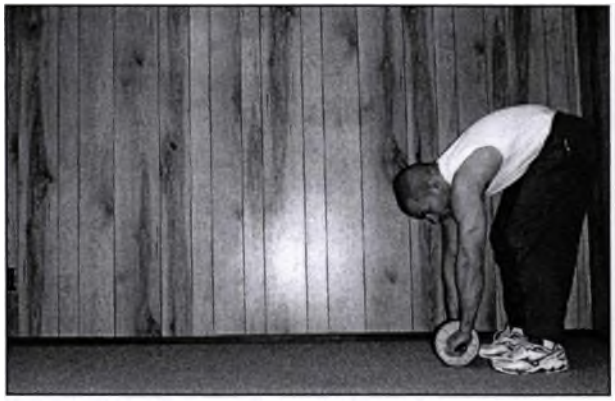
To build these rollers, I use a pair of 6-inch lawnmower tires. I connect the tires with a 10-inch hex bolt (1/2-inch thick). I secure the two wheels in place with small hose clamps. I then wrap duct tape around the handle (between the two wheels). The tape increases the thickness of the handle, offering a superior grip.

Whether you choose a single wheel or the homemade double wheel, it is a good idea to start using the device from the knees. From a kneeling position, you will roll the wheel out in front of the body. Roll until the arms are fully extended, as the chest approaches the ground. From here, you will roll back to the starting position. This is one repetition.





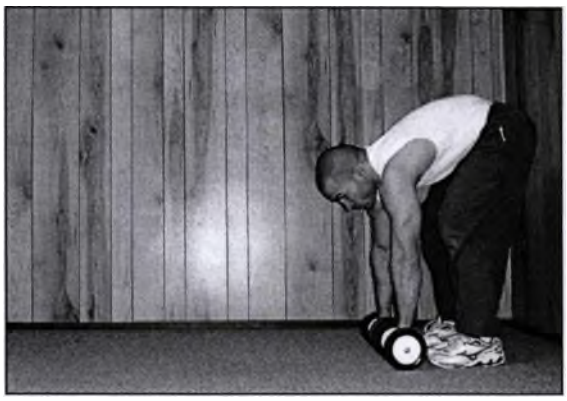
Eventually, the kneeling rollout will no longer present a challenge. Once you can perform 30 repetitions without any troubles, it is time to move on. The logical progression is to begin training for the **standing wheel rollout**.



The standing rollout is a full body exercise. Many athletes will need several months to progress to this movement. The instructions are identical to the kneeling variation, except only the feet and wheel will touch the ground.

The most difficult part of the exercise is reversing the movement from the full extension, back to the standing position. You will need considerable core strength to power this transition.

If you do not have an ab-wheel, you can perform the standing rollout with two double wheels.



I prefer working with two double wheels, as this variation introduces a unilateral element not experienced with a traditional ab-wheel. The left and right side must work independently. When working with a traditional ab-wheel, the two hands control the same device. The double wheel variation separates the left and right arm. Each side must fend for itself.

Regardless of which variation you choose, it is almost unheard of for an athlete to perform the standing rollout on their first attempt. You will need to progress gradually from the kneeling to standing variation. If you try rushing the process, you will be asking for lower back pains. This exercise will stress an undeveloped low back. An incredibly strong core is needed to perform this exercise.

One of the logical progressions is the use of partial standing rollouts. Simply use a wall to reduce the range of motion. From the standing position, you will start approximately 4 or 5 feet away from a wall. Roll the wheel out until it touches the wall. From here, you will reverse the motion, rolling back to the starting position. With regular practice, you can gradually inch yourself further away from the wall. Eventually, you will no longer need the wall for support.

When first training for the standing wheel rollout, I recommend working with several sets of wall-assisted repetitions. For example, work with 6 sets of 2 to 3 repetitions. Follow this protocol 3 days per week. Within a few months, you will be able to perform unassisted standing wheel rollouts.

The standing rollout is one of the best total body strength developers. This exercise will build strength from head to toe.

After mastering the standing wheel rollout, you may be in search of a greater challenge. If this is the case, you can begin working towards the one-arm standing wheel rollout. This exercise will take a long time to master. It is one of the most challenging bodyweight exercises available.

Before discussing the specific progressions, I would like to first address a topic related to the mastery of such difficult exercises. As a youngster, when I first tried the standing wheel rollout, I was unable to perform the exercise. I was frustrated with my inability, as I had seen one of the local professional fighters perform the exercise with ease. I was young and stubborn, and became determined to perform the standing rollout.

As I began training for the exercise, I realized that it was much more difficult than I had imagined. It took a long time and a lot of hard work before I was proficient with the movement.

Unfortunately, many so-called experts view demonstrations of movements such as the standing wheel rollout, and assume the exercise is only possible for those individuals with specific body types. They immediately write off the exercise as impossible. They may even label the movement as dangerous. These statements

are ridiculous, but an unfortunate trend in the world today. Too many people in this world label difficult tasks as impossible. Society has taught us to expect and accept failure.

When I see someone demonstrate a difficult task, it motivates me to better myself. I refuse to believe that I am incapable of anything. Perhaps I am wrong, or just plain crazy, but my intensity allows me to accomplish many difficult goals that were previously out of my reach. There is nothing special about me or my body type. All that I can say is that I have an insatiable desire to succeed. I am a competitive person who refuses to accept failure. Unfortunately, this mindset is rare in today's world. It is much easier to develop excuses for our failure to attain success.

I do not view anything as impossible. When I first tried the one-arm rollout, I realized that it would take hard work to achieve the exercise. Certain people in this world would have attempted the exercise, and then reassured themselves by labeling it as impossible. This mindset comes from a weak person. The world consists of two types of people, those who are action takers and those who are action fakers.

Perhaps there are tasks that I will be unable to perform in my life. You will never hear me admit it however, as I stand firm in my belief that I can accomplish anything. Sure, I may fail, but I will never stop fighting until I am 6 feet under.

As William Frederick Halsey, Jr. once said:

"There are no great people in this world, only great challenges which ordinary people rise to meet."

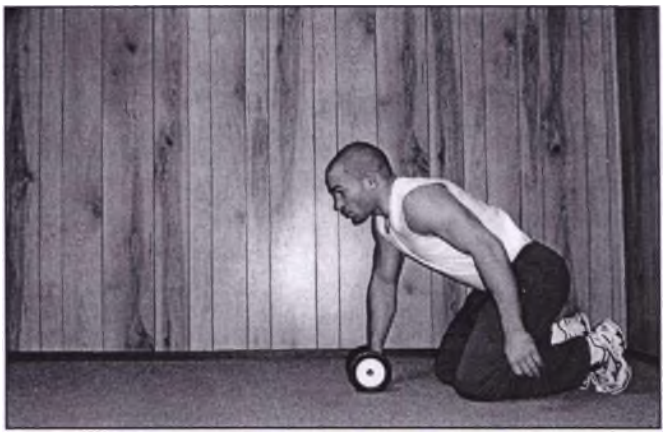
Another useful quote comes from T.S. Elliot:

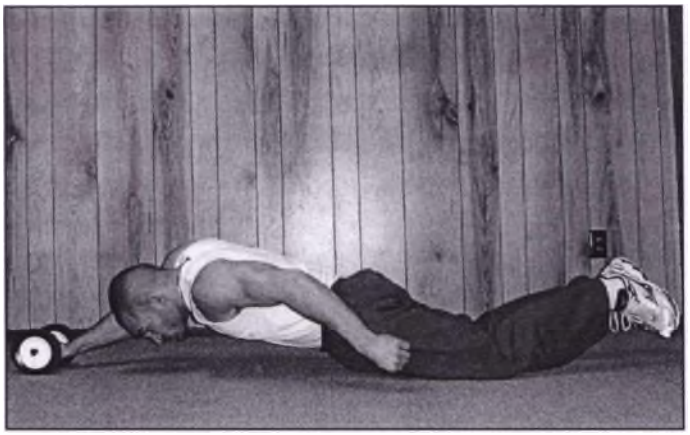
"Only those who will risk going too far can possibly find out how far one can go. "

Consider these words as you begin working to better yourself, both physically and mentally.

Now, let's focus on the one-arm standing wheel rollout. This exercise will require much more than core strength. You will also need considerable strength in the shoulders, arms, and upper back.

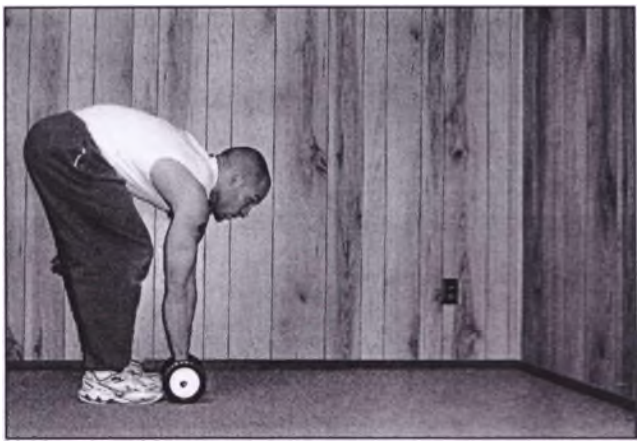
The logical starting point is from the kneeling position. This exercise is not very difficult. You can use this exercise on its own, even if you have no interest in performing the standing variation.

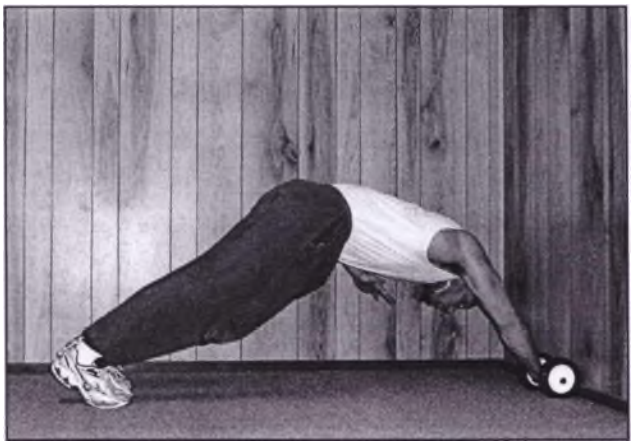




I would not attempt the remaining exercises however until you are proficient with the (two-hand) standing rollout (either with an ab-wheel or two double wheels). These exercises are advanced, not designed for beginners. You must possess a considerable amount of strength to perform these movements.

Once you are able to perform a standing rollout (two-hands) and 15 one-arm rollouts from the floor, you can begin working with the more difficult standing progressions. The first progression involves using a wall for assistance (as discussed earlier with the two-hand rollout). Simply roll the wheel until you are stopped by the wall. Pause briefly upon touching the wall, and reverse the motion. It is useful to place a piece of tape on the ground to mark your starting point. Each week you can back the starting point further and further from the wall.



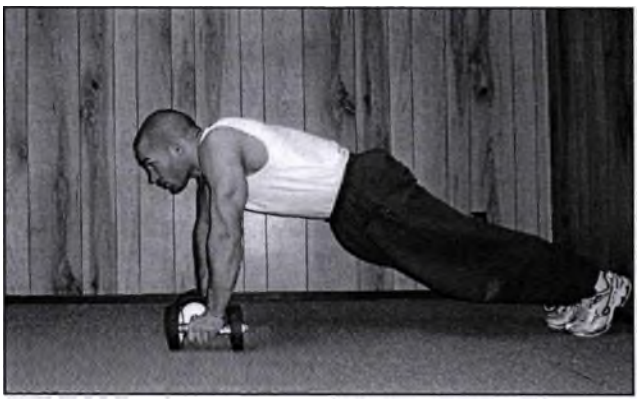


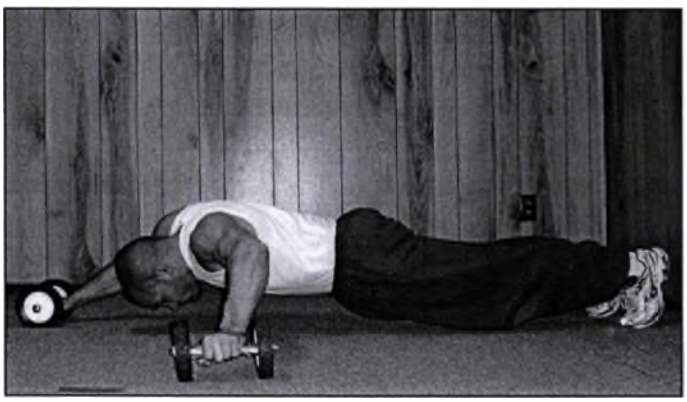
In addition to the wall-assisted rollout, you can begin working with exercises such as the **L-rollout**.

When performing this exercise, the arms will resemble the letter L at the end of the movement. This exercise will help prepare you to reverse the body from full extension, back to the upright position.

Start in an upright pushup position with each hand on a double wheel. One wheel will point to the front, while the other points to the side. From this position, you will roll one hand forward, while the other hand rolls out to the side. Roll the wheels as far as possible, without touching the chest to the ground. Only the wheels and your feet should touch the ground.

In the illustrations below, my right arm rolls forward, while my left arm rolls out to the side. Upon reaching full extension, my arms form a backwards letter L. Work 5 repetitions with the left arm going to the side, and then 5 repetitions with the left arm going to the front.



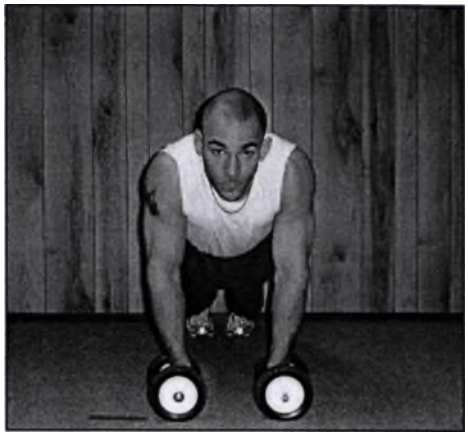


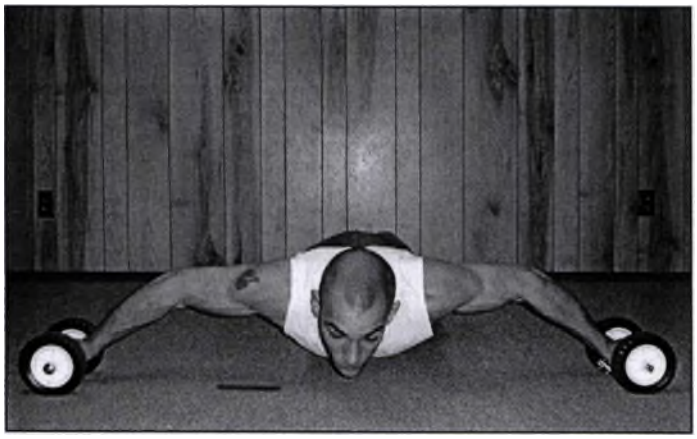
When performing the L-rollout, it is essential that the core remains tense throughout the exercise. The back must remain straight and firm. If your back starts to cave in (abdomen starts dipping towards the floor), stop the exercise. Do not *muscle through* these exercises if you are unable to maintain a firm posture.

A similar variation can be performed where both arms roll out to the sides. I call this exercise the **T-rollout**, as the body ends in a position that resembles the letter T.

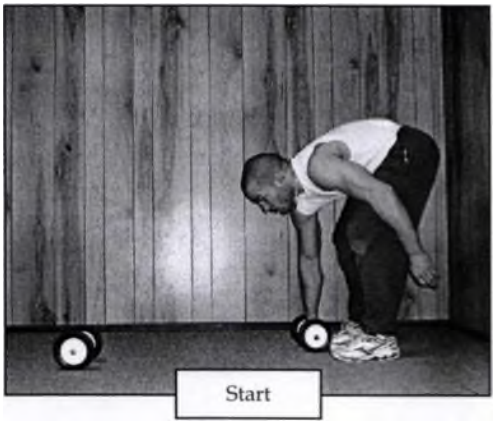
Start in an upright position with both wheels facing each other. From here, you will roll each wheel to the side, without allowing the chest to touch the ground. As with the L-rollout, you must maintain a straight back. Do not allow any dip or arch in the back.

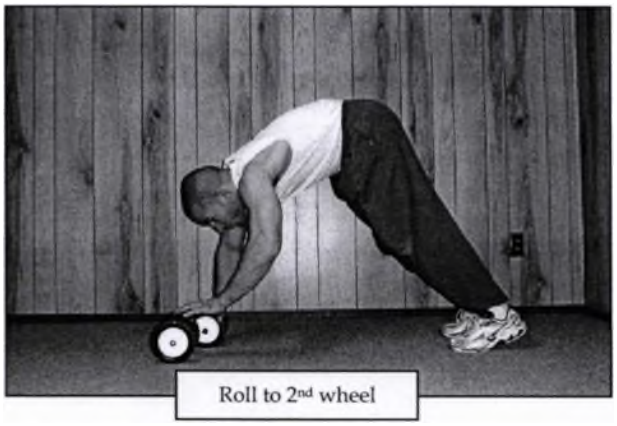
This exercise is excellent for the upper back, as well as the core.





Once you become proficient with variations such as the wall-assisted one-arm rollout and the L-rollout, you can begin working the next exercise, the wheel-**assisted one-arm rollout**. For this variation, you will need two double rollers. You will start with one roller in your hand, with the second roller placed a few feet in front of you.





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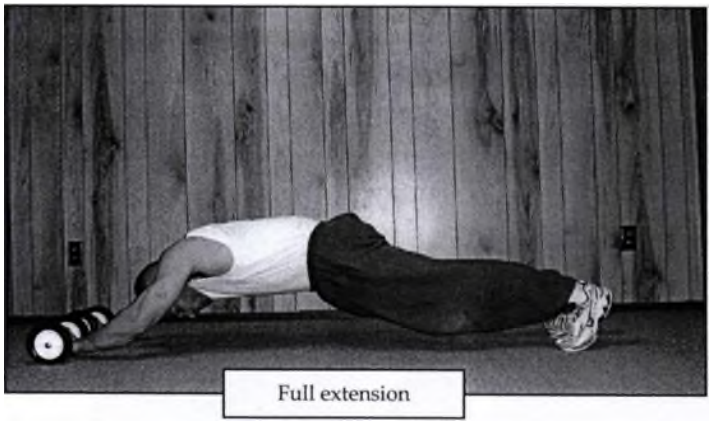
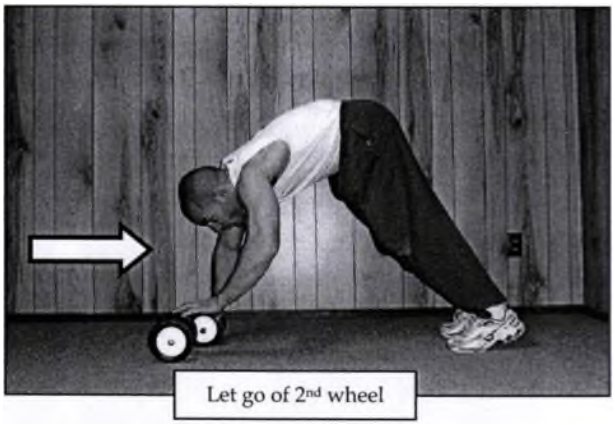
Roll out with one arm and then grab the second wheel with the free hand. Continue with both wheels until you achieve full extension. Upon reaching full extension, reverse the motion by rolling both wheels towards the starting position. Only use the second wheel for as long as necessary. The goal of this exercise is to prepare you for an unassisted one-arm rollout. You should strive to perform the exercise with the second wheel further and further away from the starting point.

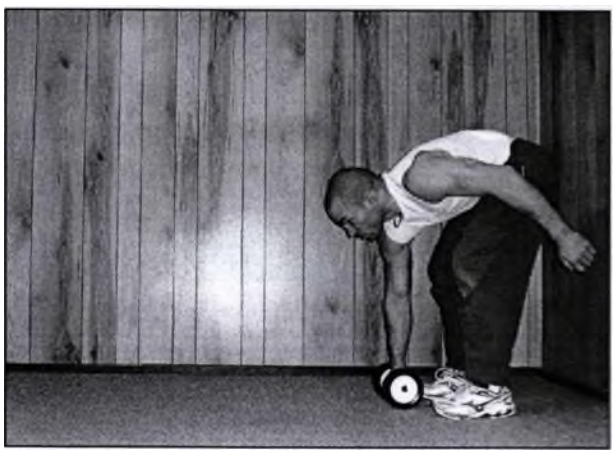

Full extension

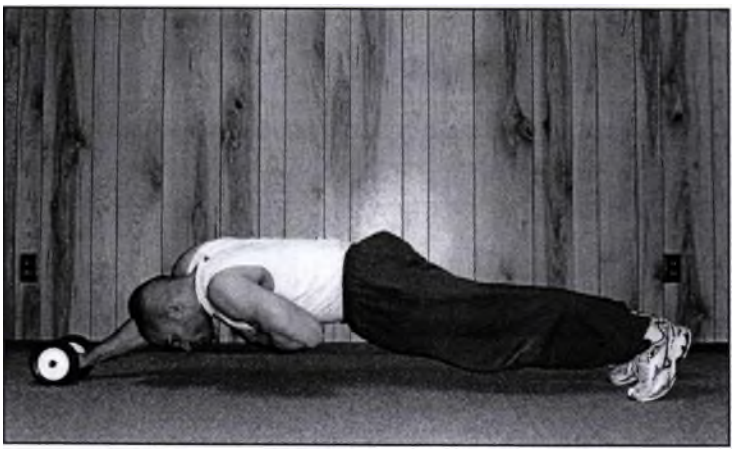

Let go of 2nd wheel

Eventually, you will not need the second wheel to achieve full extension. At this point, you can begin practicing the true **one-arm wheel rollout**.

You will need strong shoulders to perform the one-arm rollout. Reversing the exercise from the point of full extension, back to the standing position is extremely difficult. When first attempting unassisted repetitions, you may feel the need to touch your non-working hand to the ground to assist with this reversal in direction. Simply touch the hand down quickly as you transition from full extension back towards the standing position. Eventually, you will be able to hold the non-working hand across the chest, without touching the ground.

When you can perform this exercise, you will have achieved a level of strength that most people will only dream about.

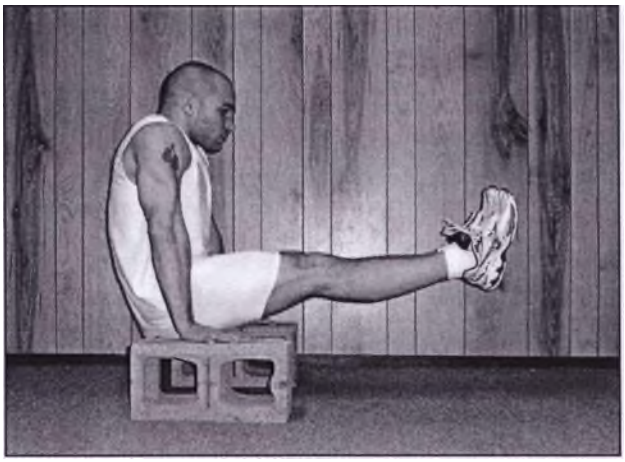




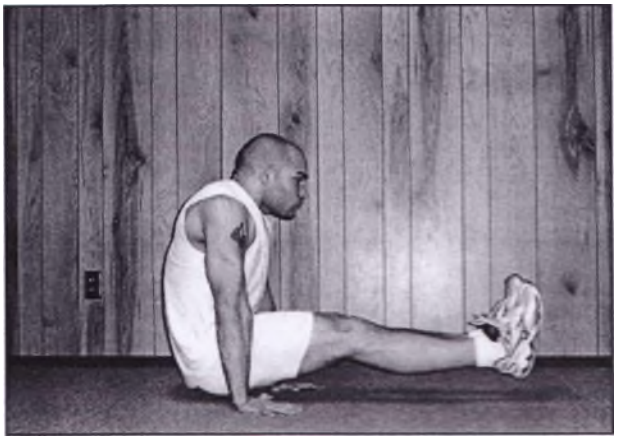
Additional Movements

We will conclude this chapter with a handful of exercises that are sure to offer a challenge, while building tremendous strength within the core.

The first exercise comes from the gymnastic world. I have seen this exercise called both an L-sit and an L-hold. We will use the name **L-sit**, as it is more widely recognized. The L-sit is an isometric exercise, as no movement is involved. This exercise can be performed on the floor, or while elevated. Options for the elevated L-sit include parallettes, blocks, and gymnastic rings.



The instructions are quite simple. You will sit with the back straight and the legs extended in front of you. The legs will form a 90-degree angle with the body. When first performing this exercise, I recommend working from an elevated structure. Such a position will allow the legs to trail below parallel. If this exercise is new to you, it may be too difficult to hold the L-sit from the floor.



Eventually however, it is a good idea to begin training this movement from the floor. This variation will maximize convenience.

For this method, you will press off the ground, raising the legs and butt into the air. Only the hands will touch the ground.

The abs will flex hard to maintain the 90-degree angle. This exercise will also

challenge the hip flexors, as well as the arms (particularly the triceps). You will need a good deal of static strength to hold this position for time.

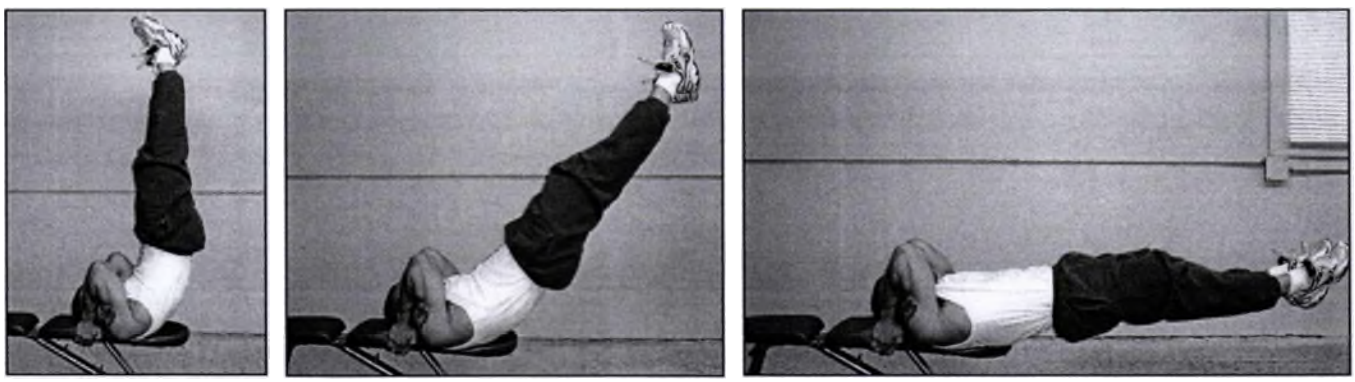
When first working with the L-sit, start with small increments. For example, hold this position for several sets of 15 seconds. You can then creep up to 20, and then 30, and then beyond 30 seconds. When you can hold this position for 60 seconds, you will possess more core strength than any high-rep abdominal crunch junkie. Eventually, you can work towards a few minutes in this position.

With regular practice, you will make rapid gains. I recommend holding each set just short of failure. For example, if you are about to fail, take a break. Rest briefly, and continue with another set. By working with such a protocol, you will have a good indication of progress. Record your best L-sit once a week. You can then look back within a few months to chart your drastic improvements. I have seen individuals improve from less than 5 seconds, to more than 60 seconds with 6 weeks of dedicated practice.

For an even greater challenge, you can lift the legs up from the L position so the body resembles the letter V (V-sit). The V-sit is much more challenging. Bruce Lee was known to hold this difficult variation.

Another *Bruce Lee inspired* movement can be performed from a secure bench. This is an advanced exercise, which is not intended for beginners. While it may not be more difficult than the L-sit, the nature of the exercise is more likely to compromise the low back if performed by an individual with inadequate strength. One of the beauties of the L-sit is that anyone can attempt and perform the exercise without risk of injury.

The exercise that follows goes by several names. I have seen it called the flag, the dragon flag, the lying pike, and the drawbridge. As I have mentioned before, the name is irrelevant. In the *Infinite Intensity* text, I labeled this exercise the **flag**. I will stick with this name for simplicity.



As the illustrations from the previous page show, this exercise will be performed from a secure bench. The bench must be secured to the ground, or held down with free weights.

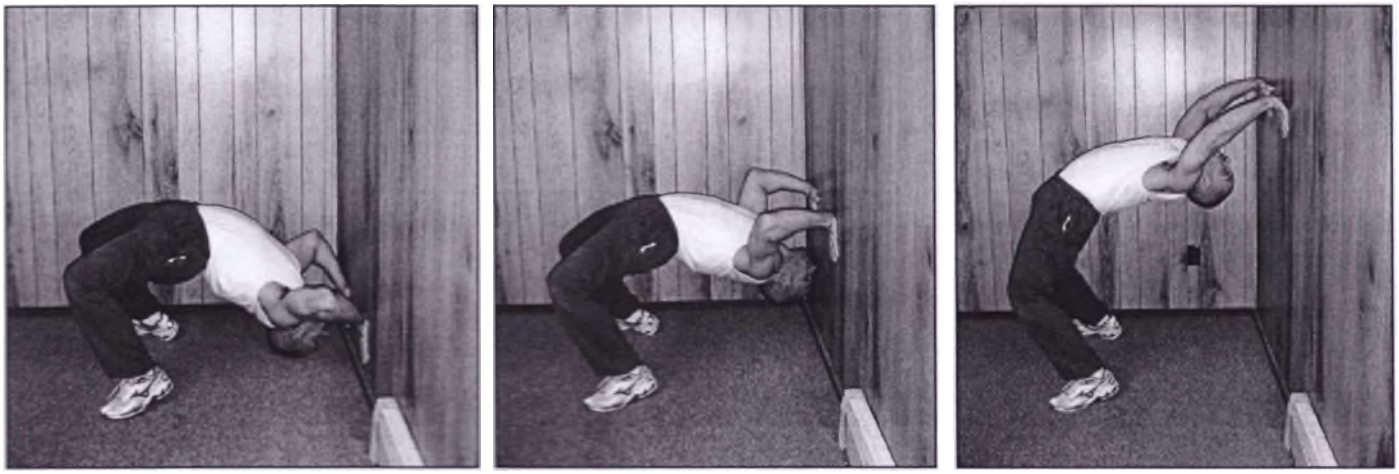
To perform the exercise, you will first grip the bench firmly behind the head. Next, raise the legs upward into the air. The feet will point towards the sky, as your weight rests on the shoulder blades.

From this position, you will lower the body towards the ground. Descend slowly as the body remains straight. Focus on staying tight, keeping the body tense and controlled.

As your body becomes parallel with the floor, you must squeeze the hands tightly into the bench to maintain control. Upon reaching this position, you will reverse the movement, retracing your steps, following the exact path. Concentrate on keeping the body straight and extended. One repetition involves coming all the way down, and then back to the starting position.

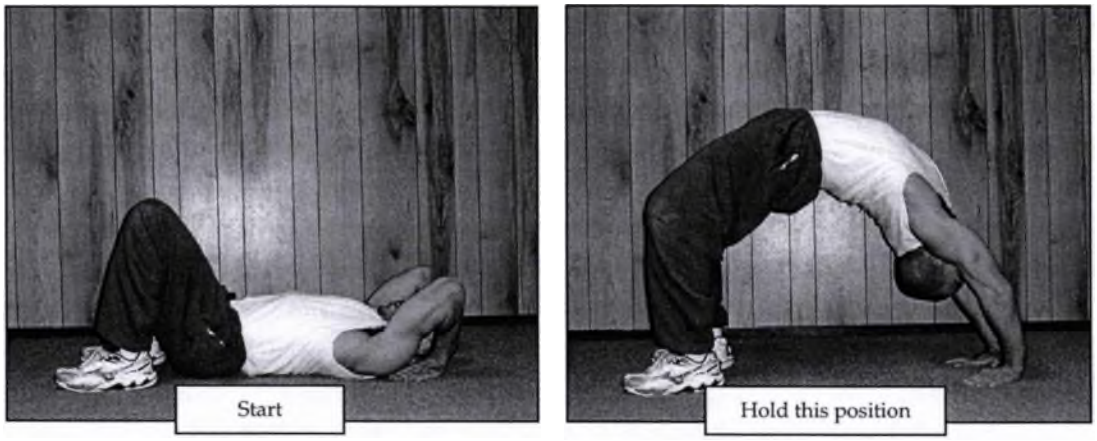
The next movement is an excellent choice for low back strength and flexibility. I learned this exercise as the Tiger Crawl, but it is also commonly referred to as **wall walking**.

Begin with the hands positioned at the bottom of a wall. The feet will be on the ground. No other part of the body will make contact with the wall or ground. From this position, you will walk yourself up the wall with the hands. You should walk all the way up the wall, until you can push off to a standing position. You can then reverse this movement by walking down the wall, back to the beginning position.



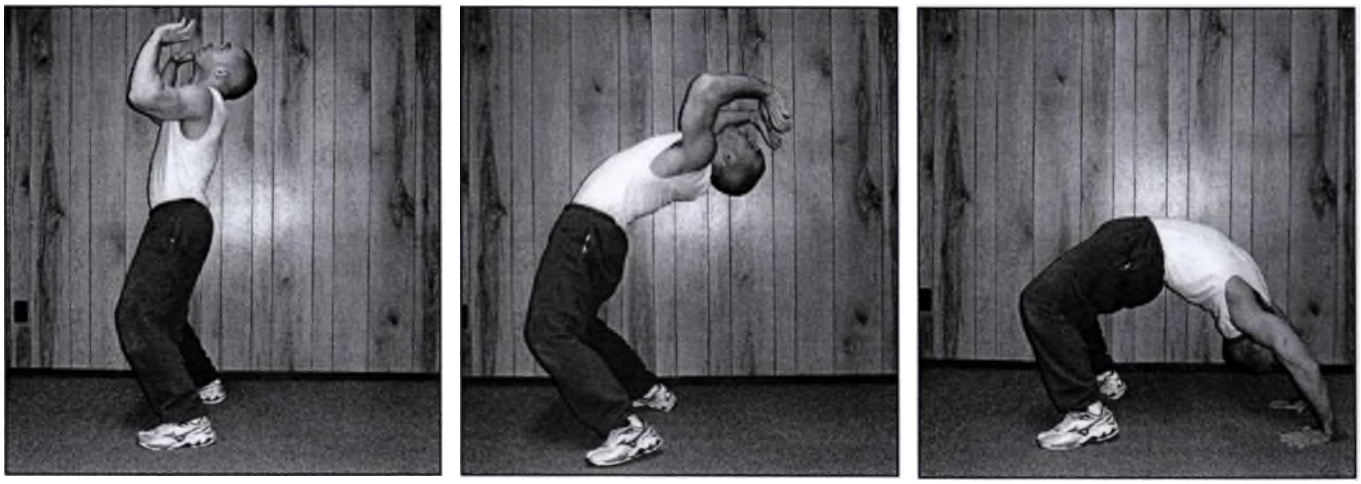
As you may have imagined, many of these exercises train much more than the core. Several of the exercises from this chapter could be classified as full body movements.

The **bridge** (below) targets similar muscles as the wall walk. This is an arched position, with only the hands and feet on the floor. The abdomen will point upward.



This is a static hold. You will maintain the upright position for time. This hold will develop strength and flexibility. This is an excellent exercise to supplement with the L-sit. The combination of the bridge and L-sit make for an effective core workout that will not make any noise. You can perform these exercises without disturbing a sleeping loved one. Alternate between one static hold of each exercise.

The next progression is the **backbend**. This exercise ends in a bridge, but starts from the standing position. The instructions are simple, although the exercise is actually quite difficult. This maneuver will require flexibility and balance.



As you can see in the previous illustrations, you simply bend back all the way until the hands reach the floor. Upon reaching this position, you can do one of two things. The first option is to hold the bridge for time.

The next option is much more difficult. You will reverse the backbend by performing a **bridge-to-stand**. To perform this exercise, you will reverse the backbend. Push off the hands from the bridge position, returning to a standing position. While pushing with the hands, you will also need to rock and shift the weight over the feet. These two actions occur simultaneously.

I consider the bridge-to-stand as difficult to achieve as the one-arm standing wheel rollout. It will take a long time to develop the necessary flexibility, balance, and muscle control. When training to master this exercise, I spent a lot of time holding the bridge, performing wall walks with a weighted vest, and finally performing partial bridge-to-stands.

When training the partial, I would perform a backbend to a low bench. From this position, I would push off and return to a stand. As I gained strength and flexibility, I was able to lower myself to a cement block. Eventually, I was able to remove the block and perform the bridge-to-stand from the ground. In most cases, it will take several months to perform this exercise. Low back flexibility is critical.

When I initially attempted the exercise, I had the strength, but lacked the flexibility. I was actually performing one-arm standing wheel rollouts with ease, yet struggling to perform the bridge-to-stand from a bench. It just goes to show that one exercise does not ensure all-around development. To overcome the challenge, I applied a combination of consistency, diligence, and perseverance. These three attributes have a magical effect when it comes to achieving a difficult challenge.

While discussing these bridge variations, it only makes sense to mention the bridge from the head (**neck bridge**).

This exercise is a common source of controversy. There are those individuals who claim this bridge to be dangerous. These folks suggest avoiding the bridge from the head entirely.

At the other end of the spectrum are those individuals who believe the bridge is the ultimate exercise. In their eves, the bridge is an integral part of any well-rounded routine.

Unfortunately, the differences in opinion have only created more confusion. Such confusion leads to the ultimate question of whether it makes sense to perform the bridge.

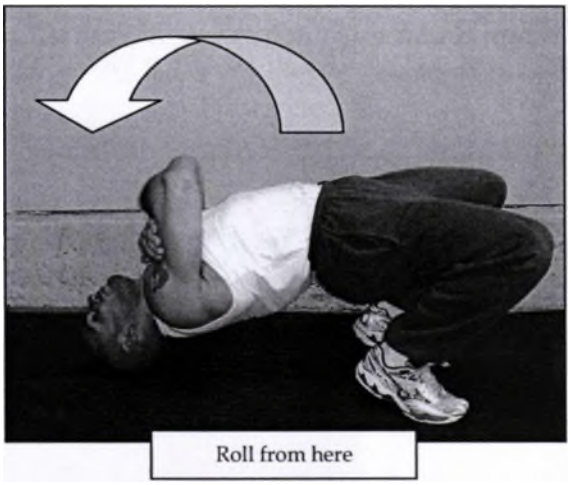
Personally, I have used the bridge for many years. As young boxers, we used bridging as a way to strengthen the neck. I have worked with the exercise long enough to firmly believe that no danger exists, assuming those who perform the exercise have no prior neck injuries.

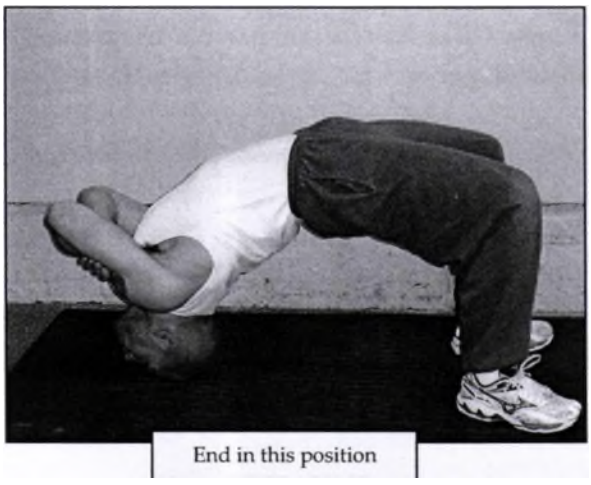
On the flip side, I have also used the exercise long enough to firmly believe there is nothing magical about it. The bridge from the head is not the panacea to fitness, as many have been led to believe.

In my opinion, the rolling bridge from the head is more useful than the static bridge from the head. For this movement, you will roll forward and backward on the head. This exercise is excellent for neck development. This movement is common among combat athletes. You can hold a weight across the chest to increase the difficulty.

Simply roll yourself from the beginning position to the end position. You will then roll back to the starting position. This is one repetition. You can place a towel under the head for comfort if cushioned mats are not available. A few sets of 10 to 20 repetitions are ideal for neck development and flexibility.

This exercise is a nice addition to any core workout. I often finish a core session with some neck work.





Questions and Answers

Ross, how do I construct a core training routine, using the more difficult exercises from this chapter?

I started the chapter with a sample beginner's workout, and later included a slightly more advanced workout that utilized resistance bands.

When these workouts no longer offer a challenge, it is time to begin training with the more advanced exercises presented within this chapter. Unfortunately, *cookie-cutter* routines do not work well when dealing with these advanced exercises. For example, suppose you were unable to perform the one-arm wheel rollout, and could only hold the L-sit for a few seconds. A routine that emphasized these two exercises would be worthless to you.

For this reason, you must identify those exercises that are within your ability, as well as those that you would like to start working to achieve. When training to achieve a new exercise, it is useful to listen to the words of Samuel Smiles:

"The shortest way to do many things is to do only one thing at a time."

This simple advice is imperative to successful execution of the more difficult exercises from this book. You cannot work on everything at once. You must work on one or two movements at a time.

I recommend choosing one or two exercises that are slightly beyond your reach. For example, suppose you wish to start working on the standing wheel rollout as well as the L-sit. You can start training these exercises at the beginning of each core workout. Always start with the most difficult exercises, as the body must be fresh when training a new skill.

Many of these new exercises will require not only strength, but also skill. You cannot develop multiple (challenging) skills at one time. Create a list of movements that you wish to conquer. Slowly work your way down the list, knocking off one goal at a time.

Ross, how many core exercises should I perform during each workout?

In most cases, you will do well with 4 to 6 different exercises. Start by *practicing* the more challenging movements (one or two movements), and then proceed with 2 to 4 remaining exercises. You could even use the intermediate workout

presented earlier in this chapter. Start by practicing the L-sit and standing wheel rollout. You can then finish with a circuit of less intense movements.

Ross, should I train the core with low or high repetitions?

The same logic that applies to traditional strength training should also apply to the core. Lower repetitions will be used when working with more strenuous exercises. For example, you may only require 5 repetitions of advanced exercises such as the standing wheel rollout. When this becomes easy, you can start working towards more difficult progressions such as the one-arm wheel rollout, or a two-hand rollout with a weighted vest. These more challenging movements will develop strength throughout the core.

Higher repetitions can be used with less strenuous exercises such as chinnies and V-ups. These movements are not as demanding on a rep-for-rep basis. High rep sets with these exercises will develop strength endurance throughout the core.

Static holds such as the L-sit and bridge (from the hands) can be performed for extended periods. The length of each set will vary based on your ability. Beginners will struggle to hold each position for 10 seconds. More advanced athletes may surpass several minutes. Clearly, these individuals will not require as many sets with each exercise. If you are able to hold the bridge for three-minutes, this time will be all that is necessary to blast the core. If you can only hold the bridge for 10 seconds, you will need to work with several sets to achieve a quality workout.

When working with resistance bands, I typically recommend a rep range between 10 and 20 reps. This is a general estimate however, and is certainly not set in stone. Higher tension bands may not allow for such high repetitions. Lower tension bands may require 20+ repetitions for an effective workout.

Ross, how many sets should I perform?

While no specific rules exist, I usually train the core with 3 to 5 sets of each exercise. I will also use circuits when training the core. For example:

- Exercise 1 = Challenge #1 (ex. standing wheel rollout)
- Exercise 2 = Challenge #2 (ex. L-sit)

- Exercise 3 = Less challenging movement #1
- Exercise 4 = Less challenging movement #2
- Exercise 5 = Less challenging movement #3
    - Perform exercises 3, 4, and 5 as a circuit

Exercises 1 and 2 are more difficult. You can work with several sets of each exercise. You can then rest briefly, and finish with a 2 to 4 exercise circuit. In the previous example, you would choose three exercises, performed as a circuit. You will perform a set of each exercise, one after the other. You will rest briefly after performing this three-exercise circuit, and then continue with another circuit. You can perform three to five total circuits.

When choosing exercises, you have several options. One reason for listing so many exercises in this chapter was to prevent boredom. You can flip through this chapter and choose any three exercises. Vary your selection to target the entire core. For example, choose one exercise that works the low back (ex. supermans), one exercise that includes a rotational component (ex. Russian twists), and one exercise that targets the abdomen (ex. V-ups). Incorporate variety throughout the week.

If you are strapped for time, limit your core work to one or two quality movements. For example, if time is limited, I will often squeeze in a core workout by performing a few high repetition sets of the two-hand standing wheel rollout (ex. 3 x 20 reps). Rollouts are one of my favorite exercises. I can always make time for a few sets.

Ross, how many days per week should I train the core?

This question is one of constant debate. There are those who believe the core should be trained daily, while others believe the core should be treated like any other muscle group, therefore trained two or three days per week.

I grew up with the first belief. As a young boxer, we were required to train the abs each day. There were world champion boxers who followed this approach. Observation is always an effective way to learn. I watched champions train the abs daily, and then succeed in professional bouts. Clearly, they were doing something right to be so successful inside the ring.

Many all-time great fighters have trained the abs daily. Most trainers, who disagree with this approach, have never been punched with an uppercut to the solar plexus. There is no *Uppercut 101* course in college. There are some lessons that you can only learn in the gym.

I have trained the core frequently throughout my life. I believe this approach is effective for advanced athletes. My typical week will include three strenuous core workouts, with an additional two days of lighter work. The strenuous days will include the more challenging exercises presented within this chapter. The two less intense days will include higher repetition work with bodyweight

movements such as the V-up. These workouts will not include any added resistance from bands or free weights.

If you are a novice to core training, I recommend working with three dedicated sessions per week. There is no need to move beyond three days as a beginner. It may not even be necessary as a more advanced athlete. I simply grew up with this mentality and have always stuck with it. I am able to perform many advanced core exercises so I see no reason to change.

Many of the so-called experts who disagree with my approach would break in half if they attempted exercises such as the one-arm wheel rollout. Yet despite this truth, they continue to label more frequent work as useless and detrimental. In my eyes, if it isn't broken, don't fix it. Bruce Lee trained his abs daily. I have not seen too many modern day trainers with a core comparable to Bruce Lee. It all boils down to the fact that the body is much more capable than most people will ever realize. Unfortunately, society is quick to place limits on our abilities. With this mentality, hard work is commonly labeled as too much. Whenever someone breaks a sweat, they fear they may be over-training. Unfortunately, under-training is a much more prevalent problem in the world today.

When should I perform my core workout?

There are several options for training the core. One approach is the use of a mini-workout. With this option, you would train the core separately, as part of a brief 10 to 15-minute workout. For example, you may train the core briefly in the morning, while performing a full strength workout in the evening. Another option is to perform the core routine as part of your main workout. For example, you may finish your workout with a brief core circuit.

You could also incorporate a challenging core exercise into a strength workout. The one-arm rollout is a perfect example. The one-arm rollout is much more than a core exercise. It requires strength from head to toe. This exercise fits well in a full body strength workout. You would start the strength workout with a few sets of one-arm rollouts, and then continue with the rest of the routine. This method works well if time is limited. Rather than skipping the core session, incorporate the *best of the best* core exercises into the strength workout. Another example would be to close the strength workout by practicing the L-sit and bridge.

Ultimately, you must make time for core training. A strong core is instrumental to your success as an athlete. If you have never trained the core before, be prepared to unlock a treasure chest full of strength.

CONDITIONING IS KING

"Once you agree upon the price you and your family must pay for success, it enables you to ignore the minor hurts, the opponent's pressure, and the temporary failures."
- Vincent Lombardi

Throughout this manual, we have addressed the upper body, lower body, and core. The exercises presented thus far are ideal for the development of several strength properties. Examples include one-arm pushups for maximal strength, plyometric pushups for explosive strength, and high rep squats for strength endurance. Each strength quality is important, therefore must be developed in a well-rounded routine. Unfortunately, the development of such a vast range of strength qualities is not enough. A missing link still exists, namely conditioning.

Conditioning is a vague term, as numerous activities fall into this category. For example, many athletes may view a casual jog as a conditioning workout. I rarely see eye-to-eye with such individuals. In my opinion, conditioning workouts must be intense. We live in an intense world. Competition is intense. To prepare for this intensity, we must train accordingly. Anyone can jog, but few people can sprint a steep hill at top speed without collapsing on the side of the road, ready to cough up a lung.

There are plenty of strong people in this world. Go to any local gym and you are sure to see plenty of muscle-bound physiques. While bodybuilding is not my cup of tea, many of these individuals clearly possess a good deal of strength. However, what happens when you force one of these men to run 400 meters at top speed? What happens when you tell them to repeat the 400 meter run again with only 60 seconds of rest?

There are plenty of strong people in this world, but very few who are in *top condition.*

The explanation for this phenomenon is simple. Conditioning workouts hurt. Lactic acid sets in as your mind begs you to quit. Fatigue is unavoidable. The great football coach Vince Lombardi was definitely on to something when he made the statement:

"Fatigue makes cowards of us all."

No one is too good for fatigue. If you are engaged in an intense activity, it is inevitable that fatigue will develop. The body can however be trained to delay and minimize the effects of fatigue. To develop this ability, you need to bust your ass. There are no secrets. Hard work and consistency will be your best weapons. You cannot sleep with your running shoes under your pillow and hope for the power of osmosis. To become a well-conditioned athlete, you need to get up on your feet and work for it.

High Speed + High Intensity

As you may have guessed, my conditioning workouts emphasize high speed and high intensity. These workouts will stress the development of the two non-oxidative energy systems, namely the ATP-PC and glycolytic system. These anaerobic systems are the primary energy sources for any combat athlete. In addition to these two systems, we will not ignore the aerobic system, although it will not be one of the primary methods of training. After all, too much aerobic exercise can cause a reduction in muscle mass, power, and speed.

More intense conditioning workouts will preserve strength and mass gains, while still offering cardiovascular benefits. Such intense work is also more effective for fat loss. High intensity workouts produce a significant post-exercise energy expenditure. In laymen's terms, the body's metabolic rate remains elevated long after the workout. Consequently, the body continues to burn calories after the workout has ceased. Aerobic workouts on the other hand only burn calories during the activity. The post-exercise energy expenditure from aerobic exercise is slim to none.

Below, I have quickly summarized some of the benefits of intense conditioning workouts.

- Sport-specific for combat athletes and power athletes
- Requires less time
- More effective for fat loss
- Preserves strength and mass gains

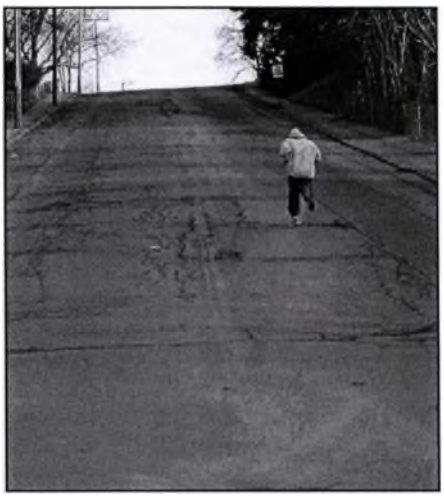
You will get in better shape, lose more fat, and complete the workouts in less time.

Exercise List

Before discussing the specific conditioning methods and drills, I will first review the exercises that will be used in the routines. If these exercises are already familiar to you, you can skip ahead to the next section. Use this part of the chapter as a reference point when referring to the routines contained within the rest of the book.

When I moved into my new home, one of the first things that I did was find the area parks and school playgrounds. I also surveyed the area for steep hills that could be used for sprint work.

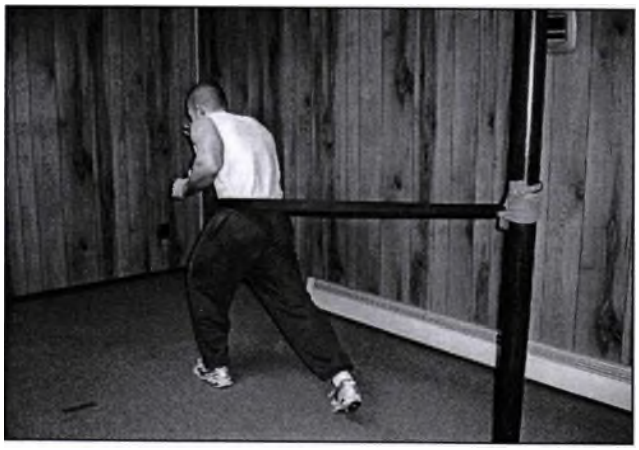
I recommend grass fields for sprint work if possible. High school tracks are also useful. Most high schools and universities will have a 400 meter track available for public use. These areas are ideal for running drills.



I also highly recommend finding a steep hill in your area. Hill sprints are a tremendous exercise for lower body power as well as anaerobic endurance. Not many drills are as effective as hill sprinting. When sprinting the hills, you will put forth a top-speed effort up the hill, and then walk or jog lightly back down the hill.

If you are unable to run outdoors, you can sprint indoors with the assistance of a high-tension resistance band. Band sprints can be performed frontward and backward.

Simply stand inside the loop of the band, and sprint forward at top speed. Focus on maximal leg drive to accelerate as forcefully as possible. The further out you sprint, the greater the tension will be from the band. If you are in tight quarters, you may run out of room before the band stops you. Whether you run out of sprinting room or the tension from the band begins pulling you back, you should quickly shuffle the feet back to the starting point. You will then immediately continue with another sprint forward. You will be sprinting forward, then quickly shuffling back, and continuing in this alternating fashion.



Add a lunge walk to a sprint session for a brutal leg workout. Simply walk until adequate tension develops with the band. From here, lunge forward, alternating between left and right legs.

For a sample workout, perform 6 lunges (3 per leg) in between every 2 band sprints. Repeat until 10 sprints are complete. Perform five sets of this drill.

When securing the bands, I opt for a low-tech approach. I wrap a boxing hand wrap around the band, and then tie it off to a secure structure such as a pole in the basement. I use this approach because it allows me to utilize the entire length of the band. If you were to use a slip-knot, you will lose several inches off the band, as it must wrap all the way around the

pole. Losing the extra length is not a problem for most exercises. With band sprints however, you will want to use as much of the band as possible. This low-tech approach is quick to set up, and will not wear down the bands.

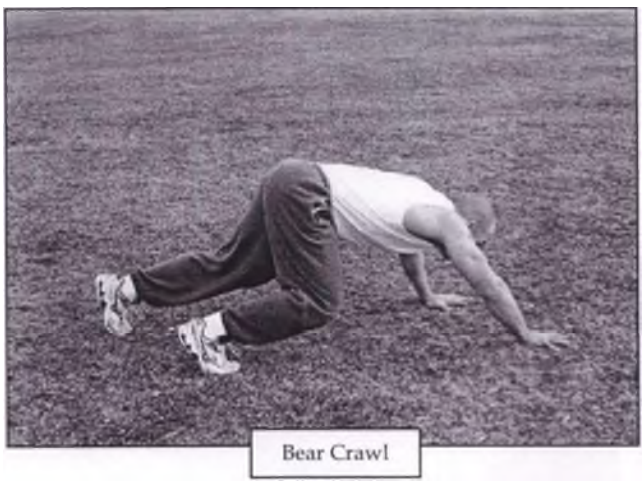
If you are able to run outdoors, you can integrate the following two movements into your workouts.

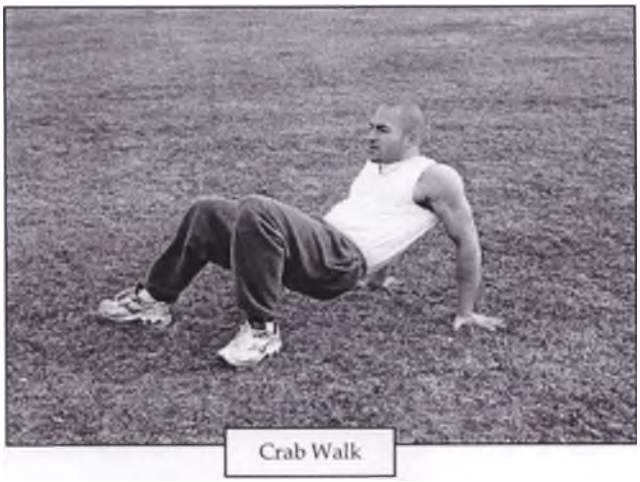
The bear crawl involves moving on the hands and feet. You will move the right arm and right foot together, then the left arm and left foot together. When performing this exercise, move forward as quickly as possible. You should apply the sprint mentality to this drill.

A modified approach can be performed where you move the arms together, then the legs. This modified version is how a bear actually runs. If you ever see a bear running on television, you will see the front legs move first (together), then the back legs. Hopefully, you will never see a bear running in person. If you find yourself in this situation, I do not recommend the bear crawl as an escape strategy!

The crab walk is the opposite of the bear crawl. You will sit on the ground, and then rise up on the hands and feet. You can move forward or backward with the crab walk. You will be able to move backwards at a faster pace however. As with the bear crawl, move as fast as possible.

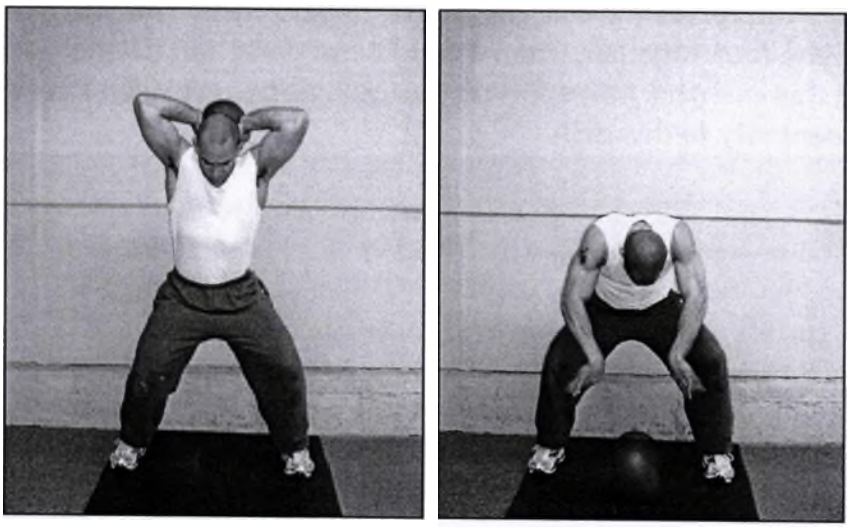
These two exercises are ideal additions to any outdoor conditioning routine. You will be forced to use both the upper and lower body, as you produce as much speed as possible.


Bear Crawl

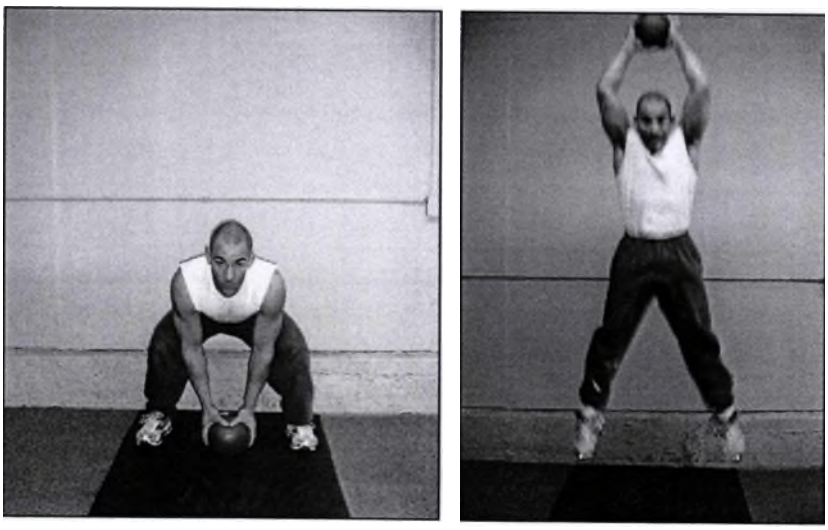

Crab Walk

Although this book was designed to minimize the need for equipment, I could not avoid including two medicine ball exercises. These exercises are tremendous additions to any conditioning routine.

The **medicine ball slam** starts by placing a medicine ball behind the head. Slam the ball to the ground in front of you, as forcefully as possible. Immediately catch (or pick up) the ball and continue at a fast pace. Imagine yourself slamming the ball through the floor.



The **woodchopper** is another tremendous movement. With the ball in hands, squat down and touch it to the ground. Explode upward into the air, bringing the ball overhead with outstretched arms. Strive to jump as high as possible. As soon as you land, touch the ball back to the ground and continue. Maintain a fast pace with this exercise.

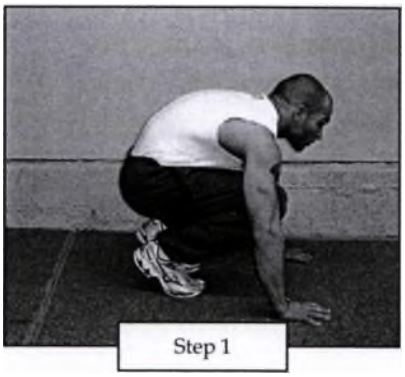


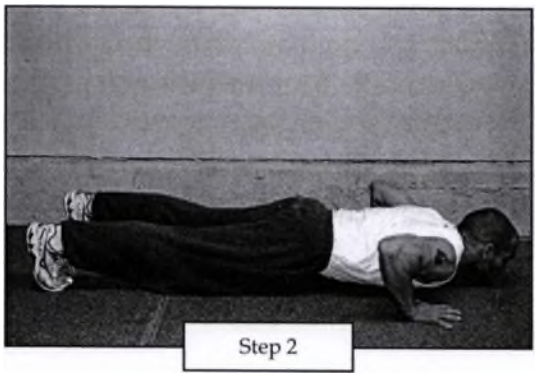
Next, we will review a personal favorite of mine. **Burpees** are perhaps the best conditioning exercise available.

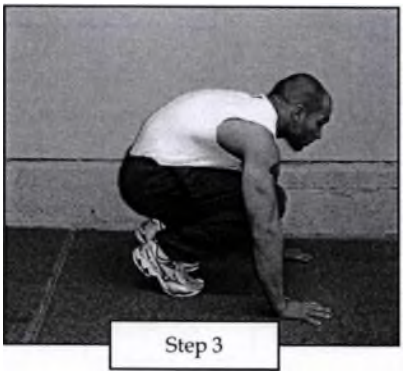
If you were to survey bodyweight exercisers, you will find many individuals who boast of high repetition squats. You will rarely hear anyone boast of their burpee ability. Burpees are a much more difficult exercise, so are often forgotten in place of less demanding movements. Performing 100 burpees as fast as possible makes for a brief, yet effective conditioning workout. Unfortunately, not many people follow through and attempt this challenge. The mind may convince you to choose alternative conditioning methods. Do not fall into this trap.

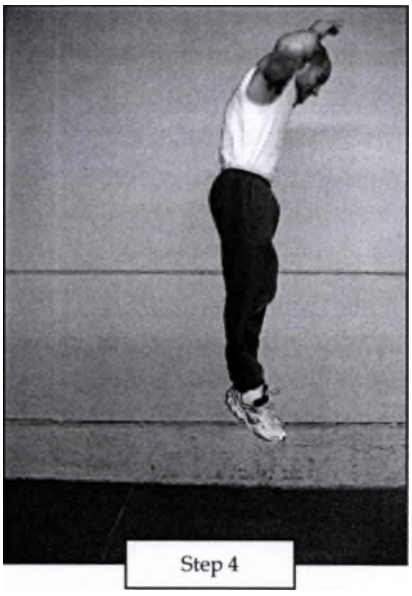
Advanced athletes should be able to perform 100 burpees in less than 10-minutes. Highly advanced athletes may complete the challenge in 5-minutes.

To put things in perspective, a past customer of mine (a 45-year-old woman) recently placed first among women in a race to 50 burpees. She performed 50 burpees in 2-minutes and 55 seconds as part of a competition at a gym in Virginia.





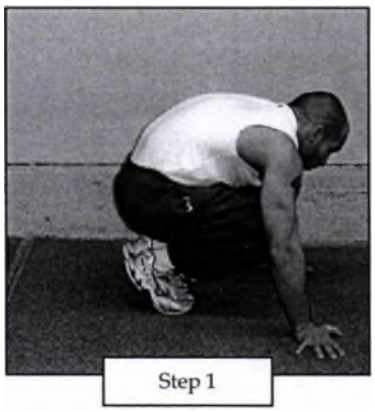


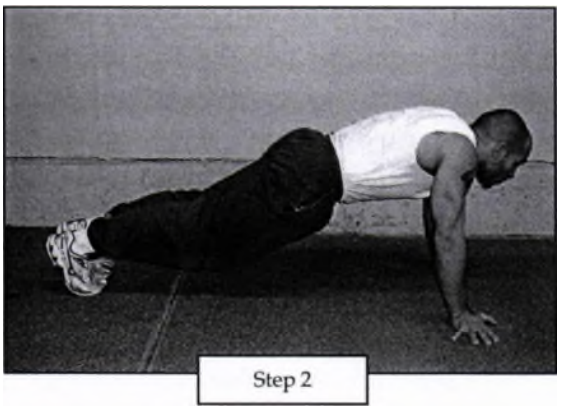


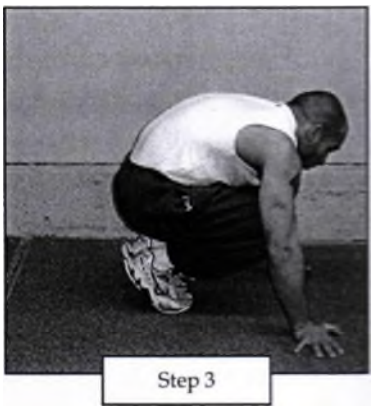
To perform the burpee, you will start in a squat position with hands on the ground. Next, kick your feet back (Step 2) into the downward position of a pushup. From here, you will push up with the arms, while simultaneously thrusting the feet up to the starting position. You will essentially perform a pushup, as you return the feet to the starting position.

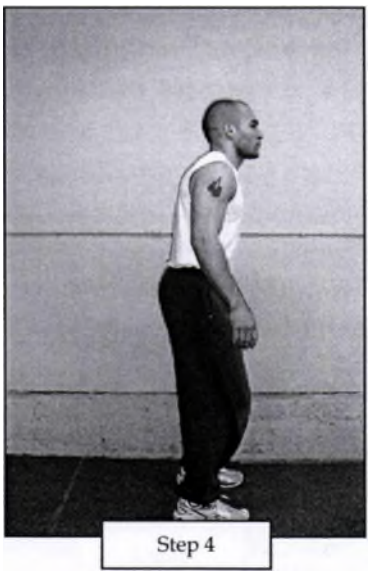
Complete the movement by exploding into the air (Step 4). As soon as you land, drop back to Step 1 and continue at a furious pace.

If the burpee is too challenging, you can instead opt for a **squat thrust.** The squat thrust is a scaled down version of the burpee.









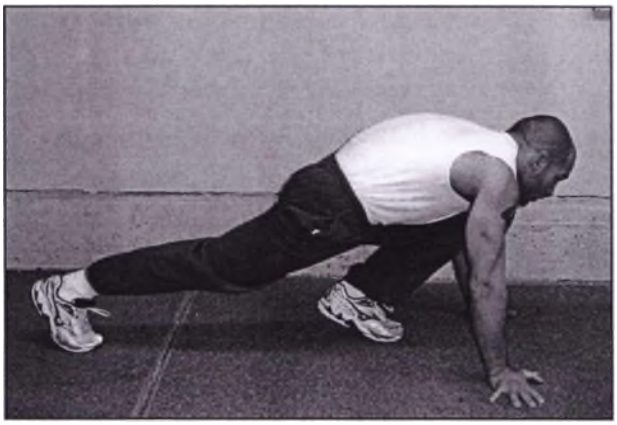
The squat thrust begins like a burpee, but strips the pushup and jump from the exercise. As you kick your feet back in Step 2, the arms remain straight, rather than dropping into the pushup position.

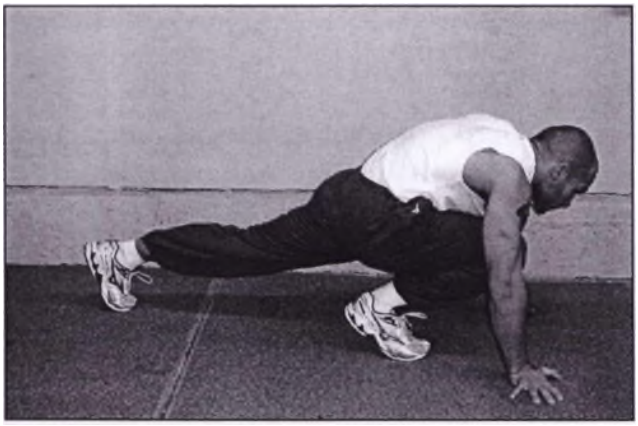
When the feet thrust back to the squat position in Step 3, you do not jump into the air. Simply stand up, and then return to the ground, starting back at Step 1.

This exercise is within almost anyone's ability. Beginners can use this exercise as an effective full body conditioner. With regular practice, you can eventually migrate to a full burpee. For example, after working with squat thrusts for several weeks, you can add a small hop at the end of the movement. Eventually, you can add the pushup as well.

Do not make the mistake of trying a burpee, and writing the exercise off as too difficult. The squat thrust is an ideal starting point for those who struggle with the pushup and jumping action of the burpee. I have worked with men and women of all ages who have successfully used the squat thrust as part of their conditioning routine.

Next, we have the **mountain climber**. Mountain climbers are a great exercise to incorporate in conditioning circuits. With the hands stationary, alternate the feet back and forth. One leg should be tucked, and one leg extended, with your weight on the balls of the feet.

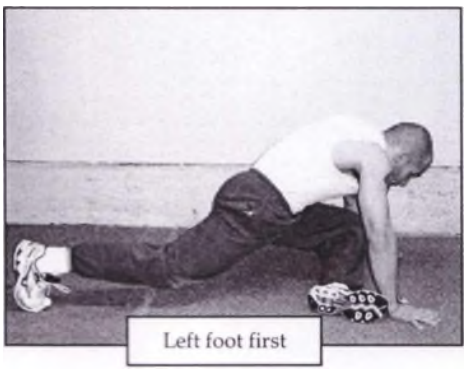


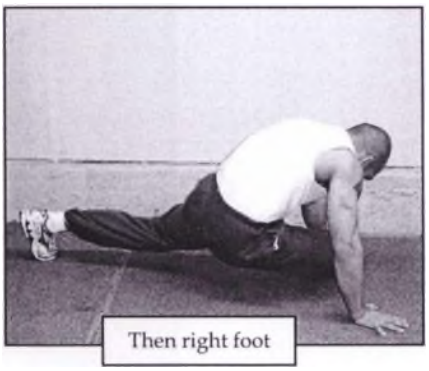


Grasshoppers are another excellent exercise for use in conditioning circuits. I rarely use mountain climbers or grasshoppers individually. These movements are included in more comprehensive circuit drills.

To perform the grasshopper, you will begin with the hands and feet touching the floor. Start the movement by bringing your left foot underneath the body until it touches your right hand. After touching your hand, return the left foot to the starting position and repeat the movement by bringing your right foot across the body to your left hand. Continue this back and forth motion at a brisk pace.

You must wear shoes when performing this exercise. If you attempt the exercise barefooted, you are likely to scrape the feet on the floor.





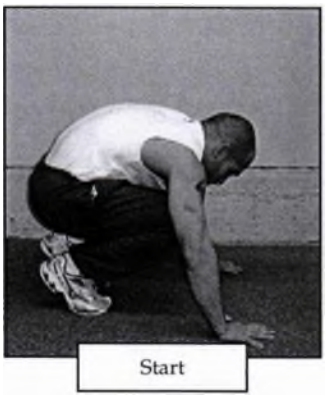
The next exercise is a *stripped down* burpee. For lack of a better name, we can call this exercise a **burp**.

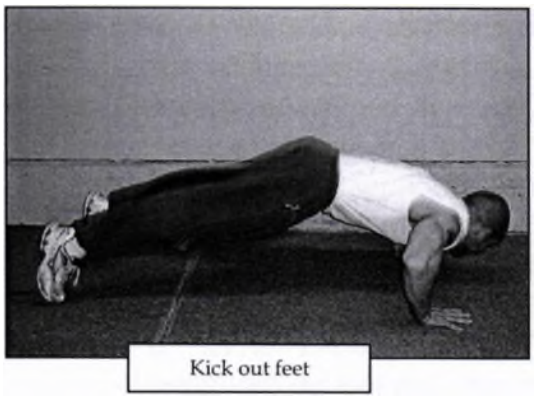
The exercise starts as a burpee. You kick the feet out to the bottom portion of a pushup. From here, you push with the hands, while thrusting the feet back to the beginning position. Up until this point, the exercise is identical to the burpee. If you were performing a burpee, you would continue with a jump into the air.

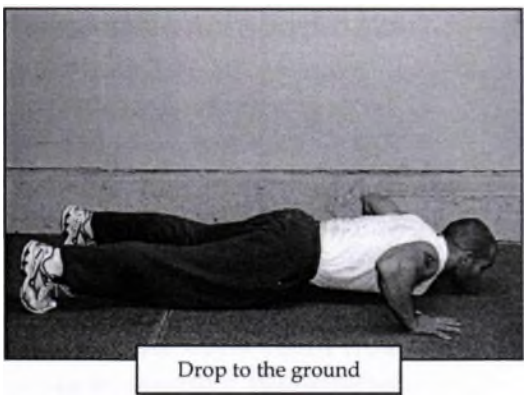
The *burp* however strips the jump from the exercise. Rather than jumping, you immediately kick the feet out again.

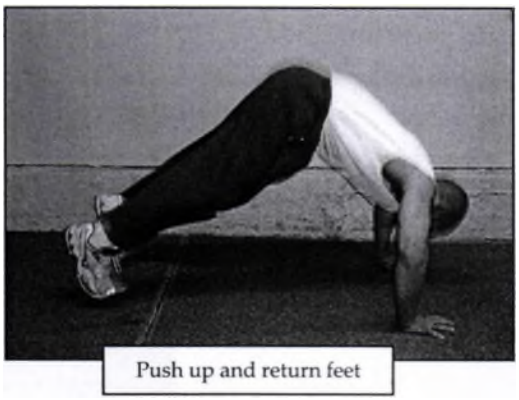
To those familiar with a mountain jumper, this exercise is a modified version. The mountain jumper is similar to the mountain climber, only both feet jump forward and backward, rather than one at a time.

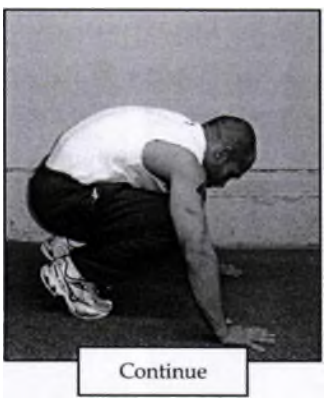
The *burp* is more effective than the mountain jumper, as it also includes a pushup. This exercise will crank up your heart rate, while fatiguing the upper and lower body.











The next two exercises are *fillers.* These movements will almost never be performed on their own. They are included in conditioning circuits as a way to maintain an elevated heart rate, while offering a slight break from a more intense exercise such as the burpee.

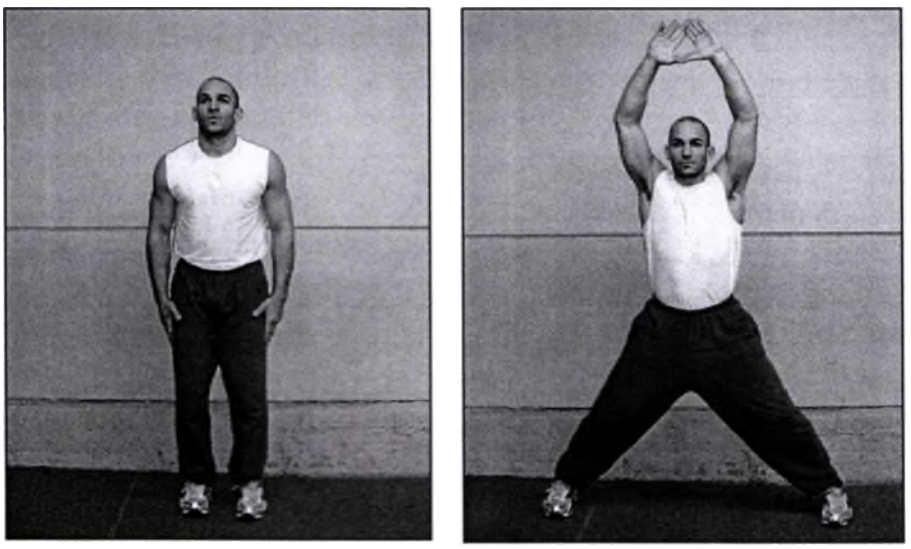
For example, one conditioning drill may include:

- Burpees x 30 seconds
- Mountain Climbers x 30 seconds
- Jumping Jacks x 30 seconds
- Burpees x 30 seconds
- Mountain Climbers x 30 seconds
- Split Jumps x 30 seconds

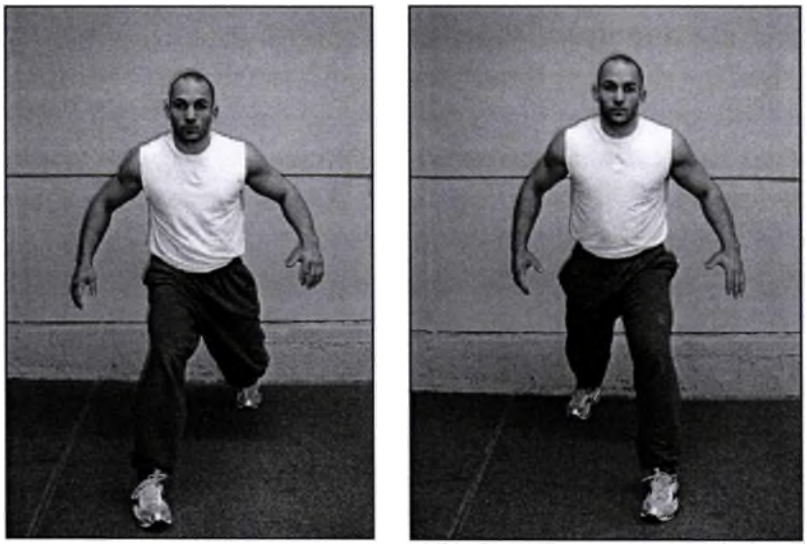
Rest 30 to 60 seconds and repeat - Perform 5 circuits

Jumping jacks and split jumps are the least difficult movements. These exercises follow 60 seconds of more intense work. You will have just completed an interval of burpees and mountain climbers. You must then continue to work through fatigue with one of the fillers. The filler will be difficult, simply because of the fatigue that has mounted from the previous 60 seconds of work. You will perform the filler as fast as possible. On their own, jumping jacks are not a difficult exercise, but they become more of a challenge when you are moving at top speed, pushing through the fatigue that has inevitably mounted.

To perform **jumping jacks,** begin with the feet slightly closer than shoulder width. The arms should hang by your sides. Perform short jumps, spreading the legs to each side while lifting the arms laterally over the head. Maintain a brisk pace, striving to maximize the number of reps performed during each timed drill.



To perform **split jumps**, begin with the hands on (or by) the hips. Your chest and head will be held high, with your weight on the balls of the feet. Shuffle the feet quickly, emphasizing movement of the hips.



Using the exercises presented within this chapter, as well as many discussed earlier in the text, we can create several effective conditioning workouts. As mentioned before, we must avoid putting all of our eggs into one basket. No single exercise or drill should stand alone as the sole means of conditioning. The body will adapt to anything with enough practice, hence the importance of variety and new challenges.

Below, I have listed five conditioning methods that will be used in the sample program discussed in the next chapter.

I. Sprints, Intervals, and Hills

I have grouped these three running styles into one category. I consider a sprint to be 200 meters or less. These short distances allow for a full speed effort.

Interval training simply alternates periods of high intensity work with less intense periods of rest or recovery. One example would be running 400 meters as fast as possible, followed by one-minute of walking (active rest). You would then continue with another 400 meter run.

For this text, 400 meters will be the primary interval distance. The 400 meter interval will tax both the aerobic and anaerobic energy systems.

A 400 meter run is one lap around a standard track.

If you do not have regular access to a track, I recommend taking a trip to a local school or university. Run one lap as a *time test.* Determine how long it takes you to perform one lap. Many athletes will average between 60 and 85 seconds when running 400 meter intervals.

Once you have estimated your time, you will no longer need the track. You can instead run intervals based on time. Simply wear a sports watch and run for the designated time (ex. 70 seconds). Time is an effective interval gauge, as it allows you to run intervals anywhere. I do most of my interval work at a local schoolyard. There are large open fields that are ideal for interval training. I simply run until I hit my designated time. Although time may not be an exact gauge, it will get the job done. You can even label start and finish points. Run the interval once, and determine an ending point. You will then have an estimate of 400 meters.

When running each interval, strive to complete the distance as fast as possible. This will require some practice to determine your optimal pace. If you start too fast, you will run out of gas. You need to determine the fastest pace that you can maintain without burning out before the finish line. Always try to finish the last 10 seconds of the interval with an all-out sprint. Sprinting at the end of an already challenging interval will reinforce the importance of *finishing strong.*

Hill sprinting will be less structured, as you are limited to the hills in your area. I am fortunate to live 5-minutes from a very steep hill that is known to leave athletes on the side of the road gasping for air. Whether you find a short or long hill, apply the interval mentality to the run. Run the hill as fast as you can. If the distance is short enough, you will be able to run at top speed. If a steep hill is over 100 meters, you will require some degree of pacing. Do the best that you can, and always finish strong.

II. Enhanced Interval Training

I use the phrase *Enhanced Interval Training* to label conditioning drills that include sprints, hills sprints, or interval runs, coupled with some form of resistance exercise.

These workouts overcome one limitation of pure running routines, as they require work from the upper body. For example, upon completing a 400 meter interval, you will be breathing hard, experiencing fatigue from the run. The lower body has performed most of the work. At this point, you will immediately drop to the ground and perform 20 pushups. A set of pushups is much more challenging when performed immediately after a 400 meter run.

Another example of Enhanced Interval Training could include starting with an exercise such as burpees, and then following with the interval run. For example:

- 15 Burpees
- 400 Meter Interval

- Repeat 6 Times (60 to 90 seconds of rest between circuits)

Enhanced Interval Training is an effective way to condition the entire body.

III. Integrated Circuit Training

Integrated Circuit Training is a fancy way to describe the process of combining a handful of exercises into one continuous, fast paced routine. When using this protocol, I often combine exercises that require strength endurance, with others that require power.

The reasoning for this *combination effect* is obvious. Each physical attribute loses value when standing alone. Consider a strong fighter who runs out of gas after a few seconds of intense action. Although the man may possess considerable strength, it is useless without the conditioning necessary to apply it under demanding conditions. The same logic applies to a fighter who possesses tremendous endurance, but is too weak to punch his way out of a wet paper bag. Endurance alone is not enough. An athlete must remain strong, fast, and powerful throughout the competition.

These *combination effect* workouts should not be limited to competitive athletes. These circuits are useful to anyone who is interested in physical fitness. Whether you are a professional athlete, a recreational basketball player, or a father who wants to throw the ball with his son, you need more than one physical quality.

The goal of an integrated circuit is to blend several attributes together into one routine. As fatigue mounts, you must still display explosive qualities. It is not enough to be fast and strong for a split second. You must develop the ability to maintain these qualities.

Working with these drills will teach you to dig deep and continue the battle, despite the unavoidable fatigue that has mounted. Besides the strong body that will be chiseled through these drills, you will develop an unstoppable mindset. If you train the body, the mind will follow. If your mind is weak, you will quit as soon as fatigue mounts. Fighters must work through fatigue. The ability to display skill in a fatigued state is a unique skill. The only way to develop this skill is by training for it.

These integrated conditioning circuits will force you to dig down deep within.

IV. Minute Drills

Minute drills are similar to the integrated conditioning circuits. The only difference is that minute drills are performed for specific time intervals. For example, a boxer preparing for a bout may use *three-minute drills* to prepare for his competition. He will fight three-minute rounds, so he can use these drills to develop the conditioning needed for his contest.

Beginners can use minute drills starting with one-minute. More advanced athletes can perform drills that last up to five-minutes. For example, one routine may require five-minutes of continuous exercise. This five-minute block serves as one *round.* The athlete then rests for one-minute, and continues with another round. The total workout will consist of three to five rounds.

I have used minute drills both personally and with clients for many years. Unfortunately, these drills are still uncommon. Many athletes are missing out. Minute drills are not only effective, but you can also integrate an endless mix of exercises to prevent boredom. You will never outgrow these drills. Minute drills can be used for both beginners and advanced athletes.

V. Finishers

The last conditioning category is that of the finisher. A finisher offers a way to squeeze out a few last benefits from a workout. When working with bodyweight exercise, I often use a high repetition set (or sets) as a finisher. For example, you have finished the primary workout, now you can drop down and crank out one high repetition set of pushups and bodyweight squats. Stop just short of failure.

Another option could involve a brief circuit. I often use the sample finisher below. Perform the entire sequence without stopping. The workout includes 150 pushups and 150 squats. Wear a weighted vest if necessary.

Sample Finisher

- 50 Pushups + 50 Squats
- 40 Pushups + 40 Squats
- 30 Pushups + 30 Squats
- 20 Pushups + 20 Squats
- 10 Pushups + 10 Squats

In my opinion, this method of *high rep* work is more effective than training solely for the goal of high repetitions. Earlier in my life, I became obsessed with obtaining more reps in exercises such as pushups, squats, and pull-ups. I lost sight of the bigger picture, and was only concerned with *building numbers.* My one-dimensional focus was similar to that of the weight lifter who is only concerned with improving his bench press, rather than improving himself as an athlete.

Many customers have emailed me with similar experiences. As martial artists, they spent many years working with high rep calisthenics. When they attempt a faster paced workout such as the 100 burpee challenge, they fail miserably. Experience has certainly shown me that high rep strength endurance (while definitely useful) does not ensure all around development.

The preparation required for high speed conditioning workouts is much different. Competition takes place at warp speed. The best way to prepare for such an intense environment is by training in an equally intense environment. Use high repetition work as a finisher to muster out a few last benefits from the workout. You will already be battling fatigue from the main workout. The finisher will offer one last demonstration of mental fortitude.

Summary

The *Never Gymless* conditioning protocol is intense, brief, and effective. Conditioning workouts must stress quality and intensity over quantity. Lengthy conditioning workouts are usually not necessary. Several sample workouts are listed in the **Program Creation** chapter. A plan is also included that shows how to put the pieces together into an effective weekly routine.

Before discussing program creation however, let's first shift gears and examine the importance of proper nutrition.

NUTRITION

"An investment in knowledge always pays the best interest." - Benjamin Franklin

The Merriam-Webster Dictionary defines nutrition as *"the sum of the processes by which an animal or plant takes in and utilizes food substances."* Despite this simple definition, many authors have complicated the concept of nutrition. Entire books have been written for individual diet plans. More fad diets exist now than ever before. Simply type the phrase *diet plans* in your Internet search engine and you will receive millions of hits. Clearly, the diet industry is large and powerful.

Yet, despite the size and power of the industry, society is as fat and sick as it has ever been. As our world grows fatter, more and more diet pills are stacked onto store shelves. Something is clearly wrong with the current system.

My goal with this chapter is to offer a simplified approach to lifelong nutrition. Many of my beliefs pertaining to nutrition changed when my wife and I started planning to have children. I began to view nutrition differently as a husband and future father. My interests became twofold; I needed a nutritional plan that would promote athletic performance, as well as lifelong health and vitality. I want to be around for my family. I do not want to fall victim to many diseases that can develop from poor nutritional habits. I also want to provide my family with the most nutritious food available. Consequently, over the past few years, I have made several changes to my diet. I now subscribe to the simple advice offered in this chapter, and have never felt better.

Fortunately, nutrition does not need to be complex and confusing, particularly when you can see through the deceptive marketing tactics of many players in the food industry. Large corporations often deceive the public to believe they are consuming healthy foods. Unfortunately, the consumption of healthy foods is a rarity in today's world.

A Cut Throat Industry

The business of selling food is a multi-billion dollar industry. Due to fierce competition, corporations do whatever is necessary to ensure a positive profit margin. The lust for profit is largely responsible for our current obesity problem. Grocery stores are filled with highly processed foods, which offer little if any nutritional benefits.

Most people in this world eat too much food. Yet, despite excess consumption, these individuals are still undernourished. At first glance, this may seem a bit ironic, but it will become increasingly clear as you page through this chapter.

Members of the food industry are not concerned with your health. They are only concerned with stuffing their pockets full of cash. These corporations thrive on the uneducated consumer. They do not want you questioning the ingredients and chemicals that **really** go into their products. Instead, they deceive you with catchy slogans such as *"Low Fat and Tastes Great!"*

We must take our health into our own hands. The food industry does not care about our welfare. To increase profits, they must sell more food, make it faster, and prevent it from spoiling.

Think about it, the food industry loses money if they create a product, package the product, ship it for resale, and then learn the product has spoiled and must be discarded. Food spoilage hurts business. Consequently, foods are treated with preservatives and chemicals to extend their shelf life. Long shelf lives give products more time to sell.

Thousands of chemicals and additives are added to the food supply. These additives are not natural for human consumption. Many of these additives have even been shown to cause cancer.

Two common preservatives in the United States of America are BHA (Butylated hydroxy anisole) and BHT (Butylated hydroxy toluene). BHA is often found in items such as cereals, butter, meats, and snack foods. It is also commonly seen in cosmetics. BHT is also added to cereals, as well as many foods containing fats and oil. BHA and BHT have been associated with kidney and liver damage, weakened immune systems, birth defects, behavioral problems, and cancer.

After reading of these potential side effects, it is natural to ask the following question.

Why are these chemicals allowed in our food?

Clearly, these chemicals are not added to ensure the health of the consumer. The preservatives are added as part of a business strategy to increase profits. Even items commonly perceived as *healthy* often include these hazardous substances.

While writing this chapter, I took a stroll through the grocery store, looking at several common foods that make their way into what many believe to be healthy lifestyles.

Just one example, which may come as a surprise, was a box of *Total* cereal. The box was covered with health related claims. The front of the package listed the following:

- 100% whole grain
- Good source of fiber
- 100% daily value of 12 vitamins & minerals
- Rich in antioxidant vitamins C & E

Unfortunately, as I turned to the lower portion of the side panel, I found the following information listed in small print, *"Freshness preserved by BHT."*

BHT is banned for use in food in the United Kingdom, Japan, Romania, Sweden, and Australia. Even the United States does not allow BHT in infant foods.

If the substance has been banned by several large countries and is barred from use in infant foods, why is it allowed in the rest of our food supply?

The answer to this question has nothing to do with the consumer. Large corporations use these substances to preserve and extend the shelf life of their products. Other chemicals are used to enhance the appearance and taste of these processed foods. As stated by author Mikhail Tomback, Ph.D.,

"Artificial and natural foods have as little in common as silk roses with real ones - they only look similar" (2005).

As unfortunate as it sounds, the fact that these substances can cause cancer and other diseases is simply the cost of doing business. Once again, these establishments thrive on the uneducated consumer. In their eyes, what you do not know will not hurt you.

Think about it, we live in a world where billions of dollars are spent researching diseases such as cancer. Unfortunately, more and more people are becoming victim to these very diseases. While society continues to search for the magic pill, no one wants to study the real cause of illness.

It all starts by examining what we put in our mouths. Clinical Nutritionist and author Cristi Doll, Ph.D., effectively summarized this topic with the following statement:

"Birth defects, learning disabilities, hyperactivity, arthritis, ulcers, mental illness, osteoporosis, allergies, and chronic fatigue are only a small list in the litany of

degenerative diseases and disorders linked to improper diet that are sapping the life-blood of our nation" (2005).

A Wake Up Call

Fortunately, you do not need to understand rocket science to begin following a healthy, nutritional lifestyle.

First, it is important to understand some basic nutritional concepts. One of the most important aspects to proper nutrition is the consumption of natural foods that have not been altered by chemicals and other additives. Unfortunately, the consumption of natural foods can be somewhat misleading.

For example, suppose you were to consume a piece of fruit. Commonsense says that fruit is *natural* in every sense of the word. Unfortunately, unless it has been organically grown, there is a good chance the fruit has been treated with chemicals. Conventional farmers often treat crops with chemical fertilizers, synthetic insecticides, and chemical herbicides. The fruits and vegetables may also be treated with coloring agents to create a more attractive appearance. We the consumer, often view bright fruits and vegetables as a sign of freshness. You might change your way of thinking if you knew that these bright colors were actually the result of chemical additives.

Unfortunately, fruits and vegetables are just two of many supposedly *natural foods* that can be far from natural. Consider the cow as another classic example. Cows service a large part of the food industry, supplying both milk and beef.

Deceiving images of cows grazing the open land are often seen in dairy and beef advertisements. Sadly, these living conditions could not be further from the truth. Rather than grazing the land and eating the traditional diet of grass, many cattle are forced to eat processed grain. The grain is less expensive and can be quickly harvested. Unfortunately, the feed crops supplied to the cattle are also pumped full of herbicides, pesticides, and fertilizers.

In a report issued by the *Farm Sanctuary**, it was revealed that three of four dairy cows are never given the opportunity to graze in pasture. Many of these cows are not even granted access to the outdoors. Those cows that do make it outside are often confined to filthy dirt lots. For obvious reasons, the dairy industry does not mention this harsh environment in their advertising campaign.

* Cited from http://www.farmsanctuary.org/campaign/dairy_report.pdf

These crammed, filthy living conditions, coupled with the unnatural diet of starchy feed, trigger disorders that must be treated with antibiotics. Antibiotic resistant bacteria eventually develop which can be passed on to humans by consuming the contaminated meat. To make matters worse, the animals are also injected with synthetic hormones to accelerate growth. A fatter, faster developed cow leads to more beef in less time. Contaminated milk and beef are then passed on to the naive consumer.

Clearly, the consumption of *natural products* such as beef and milk can be very misleading.

Unfortunately, cows are not alone when it comes to poor living conditions and contamination. Many chickens are also pumped full of chemicals and drugs. These animals live in filthy coops, which are ideal breeding grounds for infectious disease. Due to the horrendous habitat, the chickens are fed antibiotics to prevent disease.

Chicken feed is one of the most chemically treated items in the food industry. Among the chemicals added to chicken feed, you may be surprised to learn that the poison arsenic is often used. It is actually common practice to feed arsenic to chickens through a drug known as Roxarsone. The drug is given to chickens to fend off infection, to aid in growth and pigmentation, and to increase egg production.

These toxic chemicals are often present in the chicken that we consume. The National Institutes of Health and the USDA's Food Safety Inspection Service recently identified disturbingly high levels of arsenic in the flesh of broiler chickens. In addition to several forms of cancer, arsenic exposure can cause neurological, cardiovascular, gastrointestinal and immune system defects (Gregor, 2005). Perhaps these adverse effects are the reason arsenic is banned from chicken feed in Europe. Unfortunately, it is still prevalent in the United States.

Ross, if chicken and cattle are contaminated, should I instead choose fish?

Unfortunately, fish are also prone to contamination by toxic pollutants from the environment. Common contaminants include dioxins, methyl mercury, and polychlorinated biphenyls (PCBs). These contaminants enter the environment through several means, such as coal-fired power plants, waste incinerators, and other heavy industries. Fish absorb these toxins from the water as it passes over their gills (Kleffman, 2003).

What Do We Do?

After reading this discussion, you may be considering life as a vegetarian. Fortunately, this is not necessary. Personally, I enjoy eating fish, chicken, beef, and eggs. My intent is not to scare you into vegetarianism. It should simply serve as a wake up call regarding the potential risks associated with many common foods. You can minimize your exposure to many toxins by arming yourself with the knowledge necessary for educated purchases.

For example, when buying fish, the U.S. Environmental Protection Agency recommends avoiding shark, swordfish, king mackerel, and tilefish because they contain high levels of mercury. The George Mateljan Foundation for The World's Healthiest Foods also recommend avoiding species such as Chilean sea bass, fresh tuna, halibut, grouper, bluefish, amberjack, cobia and redfish. It is also recommended that you trim the fat from fish before cooking. PCB's and dioxins concentrate in fat. By trimming the fat, you can reduce exposure to many of these toxins. Lastly, stick with fresh (wild) fish, steering clear of farm-raised, frozen, canned, and packaged products. By sticking with fresh fish, you will minimize man's opportunity to handle and process your food.

Many health food stores deceivingly advertise farm-raised fish such as salmon as nutrient rich health foods. I do not recommend these farm-raised fish. Several studies of farm-raised fish indicate that these fish provide nowhere near the level of omega 3 fatty acids found in wild fish. Farm raised fish are typically fed nutrient deficient grains, similar to feedlot cattle. These grains lack nutrients and are often treated with pesticides. Farm raised fish therefore lack the nutrients of wild fish, and may contain contaminants that are passed on from conventional farming operations.

As for safe fish selections, the list is small. We unfortunately live in a polluted world. Our waters are highly contaminated. If you enjoy fish, most experts agree on a short list of (somewhat) safe selections limited to summer flounder, wild Pacific salmon, croaker, sardines, haddock, and tilapia (Czapp, 2003).

It is important to note however that contamination varies by location. It is a good idea to contact your local health department to learn of potential *Fish Advisories* that may exist in your geographic region.

Personally, I enjoy fish, but limit consumption to approximately one or two meals per month. If you do not wish to consume fish, you can receive many of the benefits by taking a fish oil or cod liver oil supplement. These supplements are purified of contaminants, hence do not pose the same risk as wild fish.

Organic Foods

The recommendations related to fish consumption are fairly straightforward. Unfortunately, the line becomes blurred when buying items such as beef and chicken. Before discussing the options available to consumers, let's first start with some basic definitions related to *natural* foods.

In December 2000, the National Organic Standards Board of the U.S. Department of Agriculture enacted the Organic Foods Production Act (OFPA) under title 21 of the 1990 Farm Bill. This act established uniform national standards for the production and handling of foods labeled as organic.

The National Organic Standards Board defines organic agriculture as "an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony."

In short, the term organic deals with the methods used by farmers to grow, handle, and treat the foods we eat. The Mayo Clinic (2004) lists several differences between organic and conventional farming.

Fertilizer

- Organic farmers apply natural fertilizers such as manure and compost.
- Conventional farmers promote plant growth by applying chemical fertilizers.

Pest Management

- Organic farmers use beneficial insects and birds, mating disruption, or traps to reduce pests and disease. If pesticide is required, it must be derived from natural sources or from products included on a government approved list (ex. boric acid).
- Conventional farmers use synthetic insecticides to reduce pests.

Weed Management

- Organic farmers manage weeds by using mulch, rotating crops, and hand weeding.
- Conventional farmers manage weeds with chemical herbicides.

Feeding and Disease Prevention

- Organic farmers use organically grown feed and certain vitamin and mineral supplements. These animals must not be given antibiotics or hormones, but can be vaccinated against disease. Natural methods are also used to prevent disease. For example, animals are provided with clean housing and balanced diets. Living conditions must accommodate the natural behavior of the animals. For example, cows must have access to pasture.

- Conventional farmers may use antibiotics, growth hormones, and medications to prevent disease and promote growth.

As you can see, major differences can exist regarding the production of food. In most cases, I recommend organically grown products. This is particularly true for fruits and vegetables. If you do not wish to purchase organically grown fruits and vegetables, I highly recommend thoroughly washing your food before consumption.

Keep in mind however that certain pesticides are specifically engineered to be waterproof. These pesticides are designed to withstand rain and irrigation. In addition, certain pesticides are systemic, which means they are contained within the fruit or vegetable. Washing the surface will not remove these pesticides. Furthermore, certain fruits and vegetables are coated in wax. Water does not penetrate wax. Although its users claim it to be safe, wax is indigestible. I don't know about you, but I'd prefer to keep indigestible coatings out of my body. Under the USDA National Organic Program rules, waxing of organic fruit is allowed using food grade substances such as carnauba wax or bees wax. Many organic providers however advertise that no wax is used.

Deciphering The Labels

Clearly, organic foods are often superior to those produced through conventional farming. Unfortunately, certain labels can be somewhat deceiving, as organic does not always equate to more nutritious. For example, many beef products are advertised as organic, while others are advertised as grass-fed. The grass-fed products may not be organic, but are often superior to the organic beef.

The term organic guarantees that certain chemicals were not used in the production of the food item. Organic however does not ensure the food item

contains specific nutrient ratios. Consider cattle as a classic example. As mentioned earlier, grass is the natural diet of cattle.

Beef may be advertised as organic, even if the animals have been fed an unnatural diet of grain. The organic tag simply means the animal has not been injected with hormones and antibiotics, and the grain feed was organically grown. Unfortunately, the label does not tell the consumer that grain is an unnatural diet for cattle. A grass-fed animal will offer nutritionally superior meat when compared to the animal that has been fed organic grains. The grass-fed meat will be superior in terms of vitamin E, beta-carotene, and essential fatty acid content.

Grain-fed beef is higher in fat, and lacks the proper balance of omega 3 and omega 6 essential fatty acids. Such beef has a much higher percentage of omega 6 fatty acids. Consumption of this meat will lead to an imbalance of essential fatty acids.

Due to our society's poor nutritional habits, it is common to consume a diet with an estimated omega 6 to omega 3 fatty acid ratio of more than 30 to 1. Most experts agree that the ratio should be less than 5 to 1 (some even suggest 1 to 1). Grass-fed cattle provide meat with a superior fatty acid ratio, which is much closer to this desired range.

Regardless of how the grain was harvested, grain has nowhere near the nutrients available in the fresh pasture.

Are grass-fed animals injected with hormones or antibiotics?

There is no universal answer to this question, hence the importance of reading food labels. Most farmers however who raise animals on pasture, as opposed to conventional feedlot operations, do not use hormones or antibiotics. Most grass farmers also avoid the use of pesticides and herbicides. Many of the farmers have simply not sought after the full organic certification.

Ideally, the best beef that you can buy is both grass-fed and organic. If this is not available, choose grass-fed beef that is also labeled free of hormones and antibiotics.

U.S. Wellness Meats is one of the best providers of beef. For more information, you can browse their site at www.*grasslandbeef.com*. Please note that I have **no affiliation** with this company, I am simply passing along a supplier that I personally use.

When choosing poultry or eggs, choose products from free-range organically fed animals. Free-range organic chickens live on a farm that allows them to run and move freely. They will have direct access to the forage and insects that comprise their natural diet. If the chicken is supplied feed, it will be organic and natural (ex. soybeans and corn). An all-vegetarian diet is not natural for a chicken. For this reason, you should purchase free-range **organic** chicken. The organic designation will ensure the feed is free from toxic chemicals, pesticides, and fertilizers. These animals will also be free of antibiotics and hormones.

Moving right along, let's now turn our attention to white flour, one of the most common items in the modern diet. The marketing of white flour products such as bread is perhaps the most deceptive form of advertisement in today's food industry. If you were to make one change to your diet, it should be the removal of all white flour products.

White flour is what is left after stripping the nutrients from a whole grain of wheat. The stripping process removes fiber, essential fatty acids, and almost all of the vitamins and minerals. Certified Nutritional Consultant Lori Lipinski describes white flour as a binding agent for items such as sugar, sodium, and chemical additives (2003a).

White flour offers no nutritional value. Unfortunately, clever marketers deceive the public by advertising white flour products with catchy phrases such as *low fat*. The innocent consumer equates low fat with healthy. They go on to buy items such as white bread, pasta, and bagels. These products are comprised of highly refined flour loaded with chemical softeners, whiteners, and preservatives. Many of these products also contain processed ingredients such as partially hydrogenated oils. Registered Dietitian and Certified Clinical Nutritionist Rebecca Ephraim states that these chemically altered oils may raise cholesterol, upset blood insulin, and hinder our ability to use essential fatty acids (2000).

White flour is not only useless, but it can actually cause several health problems. White flour breaks down to sugar, which can result in blood sugar imbalances. All the problems associated with high sugar consumption should also be related to white flour consumption. Once white flour is broken down to sugar, your body will not know the difference between a piece of bread and a spoonful of sugar. White flour can also cause constipation. Constipation results in an accumulation of waste inside the body. The result is an environment ideal for parasites to thrive in (Lipinski, 2003a).

As mentioned above, one of the best things you can do to improve health and prevent disease is to avoid white flour. You should take it a step further and avoid all processed carbohydrates. Say good-bye to refined white flour, refined white sugar, and milled grains. These man-made and artificially processed ingredients do not exist in nature, and are not intended for human consumption.

Please note however that I am not suggesting a low-carbohydrate diet. On the contrary, carbohydrates are the body's primary source of energy. Rather than following a low-carb diet, I recommend a diet rich in carbohydrates derived from natural sources. Examples include fruits, vegetables, and organic whole grains.

So, should we eat products derived from wheat flour instead of white flour?

Transitioning from white flour to wheat flour is surely a step in the right direction. When harvested in fertile soil, whole wheat is rich in vitamins and minerals, as well as essential fatty acids (Allbritton, 2003).

Unfortunately, simply looking for the phase *wheat flour* on food labels is not enough. Modern farmers often spray wheat fields with pesticides, fertilizers, and insecticides. Seeds may even receive an application of fungicides and insecticides before they are planted (Allbritton, 2003). To add to the problem, modern processing technologies also strip the grains of many nutrients.

To avoid these problems, I highly recommend organic bread. If your bread is not organic, I would not eat it. You can usually find organic bread at your local health food store. Many products are also available for shipment through online retailers. For example, Nature's Path supplies many quality organic breads. I buy this bread locally at a small health food store. These products are also available online. Check out *www.naturespath.com* for more information. Once again, please note that I have no affiliation with this company.

By simply reading the labels, you will notice a significant difference between organic breads and other highly processed breads. For example, Nature's Path lists the following ingredients for their MultiGrain Manna Bread:

Sprouted Organic Whole Wheat Kernels, Filtered Water, Organic Brown Rice, Organic Barley, Organic Millet, Organic Flax Seed, Organic Rye Kernels, Organic Soya Beans, Organic Rolled Oats, Organic Oat Bran, and Organic Cornmeal

Now compare the ingredients from Nature's Path to a partial list of ingredients that comes from another *whole wheat* bread:

High fructose corn syrup, mono and diglycerides, exthoxylated mono and diglycerides, dough conditioners (sodium stearoyl lactylate, calcium iodate, calcium dioxide), datem, calcium sulfate, dicalcium phosphate, diammonium phosphate, calcium propionate (to retain freshness)

Clearly, this product is loaded with junk! Whenever a food item is comprised almost entirely of unpronounceable ingredients, it is a good idea to keep the item away from your mouth.

When analyzing the specific ingredients, it is hard to say which is the worst, as there are so many to choose from. For example, calcium sulfate can cause intestinal obstruction and is even banned in some countries. Perhaps the worst ingredient of all however is the high fructose corn syrup (HFCS). HFCS is arguably the worst form of sugar in food today. You will find this crap in soft drinks, fruit juices, cereals, breads, and even granola bars (often incorrectly advertised as a nutritious snack). HFCS is cheaper and sweeter then sugar, which make it a goldmine for the food industry. Unfortunately, it is related to several health problems, and is a major culprit in our society's current obesity problem.

This simple example shines light on the importance of reading the labels on all food items. Stick with organically grown whole wheat bread. Stay away from the highly processed breads that fill most supermarket shelves.

Let's now shift gears and focus on a final example of deceptive marketing in the food industry. This may come as a surprise, but the marketing of pasteurized dairy is one of the most deceiving advertising campaigns in existence today.

Pasteurized milk is not the health product that many believe it to be. This information will likely contradict the beliefs of many health conscious readers. This can be expected based on the mass-marketing efforts of the dairy industry. We are all familiar with slogans such as *"Milk Does The Body Good."*

Unfortunately, the pasteurized milk that sits on supermarket shelves does not live up to its claim, as it surely does not do the body good. In addition to the horrendous living conditions endured by the cows (discussed earlier in this chapter), the process of pasteurization and homogenization strips milk of any nutritional benefits.

Contrary to what the food industry wants you to believe, the best milk that you can consume is (fresh) organic, raw milk that has **not** been pasteurized or homogenized.

Pasteurization involves heating milk to kill bacteria. Unfortunately, the process also kills beneficial enzymes required for proper digestion. The nutritious elements of milk are ruined during this process.

As stated on the informative *www.realmilk.com* website:

"Pasteurization destroys enzymes, diminishes vitamin content, denatures fragile milk proteins, destroys vitamins C, B12 and B6, kills beneficial bacteria, promotes pathogens and is associated with allergies, increased tooth decay, colic in infants, growth problems in children, osteoporosis, arthritis, heart disease and cancer. "

Much of this information will likely provide a rude awakening. After all, the dairy industry bombards us with advertisements related to the health benefits of milk. Marketing specialists do not tell the public that much of the calcium found in raw milk becomes insoluble after pasteurization. Pasteurized dairy is a poor source of calcium. My advice is to avoid pasteurized dairy. If you cannot find raw milk in your area, consume alternative sources of calcium such as dark green, leafy vegetables.

Another problem with store-bought milk is the process of homogenization. Homogenization breaks up and evenly distributes the fat globules of milk. This process breaks the fat globules to such a small size that they remain suspended in the milk, rather than separating and rising to the surface. If you were to take milk straight from a cow and allow it to sit in the refrigerator, the cream would separate and rise to the top. The unnatural process of homogenization increases the surface area of fat. The fat is exposed to air which leads to oxidation. Several researchers have linked homogenization to heart disease and atherosclerosis (Lipinski, 2003b).

Although unbeknownst to many, processed dairy is just as bad as processed food. Many health conscious individuals avoid processed foods, instead opting for natural items such as fruits and vegetables. Unfortunately, these individuals are often conned into believing that milk is a health food item. Contrary to popular belief, the highly processed milk found in most supermarkets is far from natural.

" Cited from http://www.realmilk.com/what.html

Ross, why do dairy companies pasteurize and homogenize their products?

Over one hundred years ago, many deaths resulted from diseases that were transmitted through raw milk. The dairy industry lacked access to refrigeration, stainless steel tanks, and modern milking machines. Cows were milked by hand. These animals were fed nutrient deficient diets, often forced to stand in manure all day, with no access to pasture. These conditions, and a general lack of public sanitation, led to widespread disease and infection.

Fortunately, times have changed. Modern technology has made pasteurization an unnecessary process. The dairy industry does not want you to know this information however. Expensive equipment is required to process large quantities of milk. The dairy industry is a powerful force in our economy today. By requiring expensive processing equipment, these large players can minimize competition from smaller farms. A small farmer does not have the economic backing to compete with the larger players in the industry. This is unfortunate, as raw milk is both safe and nutritious.

The dairy industry has brainwashed the public into believing that pasteurization is necessary to prevent disease. This could not be further from the truth. Consider the following information. California is one state where raw milk is distributed in many health food stores. There have been no outbreaks of human illness from consumption of raw milk in California.

Meanwhile, pasteurized milk has been linked to numerous outbreaks of illness throughout the last 20 years. A few examples are listed next*.

- In March of 1985, there was an outbreak of Salmonella typhimurium illness. This outbreak resulted in over 19,500 confirmed cases of Salmonella. What was the cause of this outbreak? Pasteurized milk!

- Another outbreak occurred in 1985 which resulted in 47 deaths. These deaths have been traced to pasteurized Mexican-style cheese that was contaminated with Listeria monocytogenes.

- Yet another Listeria outbreak occurred in Massachusetts in 1983. Once again, pasteurized dairy was the culprit behind this outbreak.

- In 1982, over 17,000 people became ill with Yersinia enterocolitica. This outbreak was also transmitted through pasteurized milk, which was bottled in Memphis, Tennessee.

* Cited from http://www.realmilk.com/foodborne.htmI

- A more recent example occurred in California in 1994. More than 100 people became ill from E. coli and Listeria. Pasteurized dairy was once again the culprit.

My advice is to find a raw milk provider in your area. Stop consuming pasteurized dairy products. Visit the previously referenced *www.realmilk.com* (a project of the Weston A. Price Foundation*) to learn more about the benefits of raw milk, as well as find a supplier in your area.

This information will likely go against everything that you have learned regarding nutrition. It certainly did for me. I myself was hesitant to switch to raw milk. Communication with Dr. Cristi Doll *(www.cristidoll.com)* helped convince me of the benefits of raw milk. After extensively researching the subject, I elected to stop consuming pasteurized dairy and now only consume raw milk. I buy milk and eggs from a local farmer. It is a twenty-minute drive to the farmer that I gladly make each week. I feel great since making this change in my diet. I will never return to pasteurized dairy.

If you are interested in a more detailed discussion of the dairy industry, I recommend *The Untold Story of Milk* by Dr. Ron Schmid ND.

What Do We Do?

At this point, we know several foods to include in a healthy diet, as well as several foods to avoid. Let's now take it a step further and examine some basic tips and strategies that you can apply to a lifelong nutritional plan.

Our diet must provide an optimal mix of protein, carbohydrates, fats, vitamins, and minerals.

- Carbohydrates are the most efficient form of energy for the body and brain.

- Protein is a component of every cell in the body. It is essential in building, repairing, and maintaining bones, muscles, cartilage, skin, and blood.

- Fats are essential for cell membranes, hormones, and prostaglandins. Fats enable the body to produce healthy hair, skin, and nails. Fats also serve as a transfer agent for vitamins A, D, E, and K.

* More information is available at: http://www.westonaprice.org/

- A vitamin is an organic chemical compound necessary for growth, metabolism, and health.

- Minerals are inorganic substances not produced by the body, which are required for proper bodily function.

Throughout my life, I have experimented with several nutritional strategies. There was a time when I would count each calorie that entered my body. I also monitored my intake of each nutrient to ensure a specific ratio of carbohydrates, fats, and proteins.

Unfortunately, the joy of eating became a laborious job. Each meal became an algebraic equation, as I counted calories and individual nutrients. I was essentially micro-managing my food consumption.

As I have grown older and wiser, I no longer count calories or nutrient ratios. I truly believe that these processes are not necessary. Food consumption should not become a chore. Life is too short to spend it calculating precise nutrient ratios. When dealing with food consumption, my advice is to keep it simple. By eating natural foods, we do not need to worry about micro-managing the task of eating. Natural, wholesome foods will provide the perfect blend of essential nutrients.

If someone asked me how many grams of protein or fat I consume, I would not have an answer. I do not know. I simply consume natural foods throughout the day. My performance as an athlete has not changed at all since I transitioned from a food micro-manager to a person who simply eats natural items without concern over specific ratios.

This concept will surely conflict with many of the opinions that you have read regarding nutrition. We are bombarded with countless diet plans (ex. low-carb plans and low-fat plans). My advice is to stop worrying about carbs, fats, and proteins. By simply consuming well-balanced meals and applying a little commonsense, you will receive all the nutrients required for lifelong health and optimal performance in the sporting world. Too much or too little of any nutrient (fat, carbs, and protein) can surely lead to health problems, hence the importance of a balanced menu.

In the section that follows, I have provided a bullet list of tips and strategies that you can easily apply to your active lifestyle.

Nutritional Tips

- Consume foods in their natural state, or as close to natural as possible. Avoid processed foods. The less chance that man has to process your food, the better off you will be. If possible, make the transition to a primarily organic meal plan.

- Two excellent health food stores include Wild Oats *(www.wildoats.com)* and Whole Foods Market *(www.wholefoodsmarket.com).* In addition, many large grocery stores are beginning to offer more organic foods. They simply cannot overlook the increased awareness of many health conscious consumers. Inquire about organic foods at your local grocery store.

- Consume a small meal every few hours (ex. every 3 hours). By spreading intake throughout the day, you will maintain a steady supply of energy, while helping to stabilize blood sugar. If blood sugar levels remain steady, you will feel energized. You will also keep your metabolism working throughout the day. Each small meal will function similarly to a log in a fireplace. The meal keeps your metabolism burning throughout the day, just as the log keeps the fire burning in a fireplace.

- Listen to your body. Your body will tell you when it needs food. You must also know when to stop eating. The goal of a meal is not to stuff yourself full. As the Greek physician Hippocrates* once said, *"If you still have a slight sensation of hunger after a meal - you have eaten well. If you feel full - you have poisoned yourself."*

- Always read food labels. Avoid products that contain hydrogenated oils, partially hydrogenated oils, trans fats, and high fructose corn syrup. You should also avoid items that are loaded with chemical ingredients which are impossible to pronounce. Stick with natural foods at all times.

- If you must eat one of the following, choose real butter over margarine. Margarine is not a healthy alternative to butter. Margarine is a laboratory-developed product that does not belong in the human body!

- Consume water as your primary beverage. Add freshly squeezed lemon or lime for flavor. Do not consume soda, even diet soda should be avoided. I also recommend avoiding fruit juice. Juice is high in sugar, and often comes from poor quality, highly processed fruit.

* Cited from Mikhail Tombak's book, *Can We Live 150 Years?*

- Avoid all artificial and chemical sweeteners. Artificial sweeteners have been linked to numerous illnesses. Sweeteners can be found in most low-calorie foods and drinks (ex. diet soda). If you drink coffee, consume it without sweeteners. I also recommend viewing *www.aspartamesafety.com* for frightening information regarding one of the more common and hazardous sweeteners, aspartame.

- Consume natural foods such as fruits, vegetables, beans and legumes, organic whole wheat grains, organic brown rice, nuts (ex. walnuts, almonds, pecans), chicken and eggs from organically-fed hens, and beef from grass-fed cattle. Occasional fish consumption is also acceptable.

- Natural foods such as fruits and vegetables, which are not organic, are still superior to processed items such as granola bars and cereal. If you cannot eat organic, you should at least eat *natural.*

- Shop the perimeter of your grocery store. You will find much healthier selections along the perimeter.

Making It Affordable

At this point, you may be wondering how much money it will take to follow a diet rich in natural foods. In my opinion, it should not cost much more than a traditional (highly processed) diet. For example, just by choosing water over fruit juice and soda, you will realize some immediate savings. You can also save money by eliminating breakfast cereals in place of natural oatmeal. My typical breakfast includes a bowl of oatmeal with walnuts, raisins, honey, and a dash of cinnamon.

My wife and I also cut back on the number of days that we go out for dinner. Rather than blowing $50 on one meal, I would rather invest this money in healthy, organic foods that will last all week.

Another point that I must address is about supplements. I know many athletes who have no problem dumping $200 a month on sports supplements. These same athletes complain that they do not have the money for natural, organic foods. I typically counter with the following argument. The more natural foods that you eat, the less dependent you will be on supplementation.

Personally, I take a multi-vitamin and a fish or flaxseed oil supplement. I also take glutamine from time to time, particularly during a very intense training phase. In the past, I have taken many more supplements. My need for

supplementation has dropped tremendously as my nutritional habits have improved. Since I have switched over to an almost entirely organic diet, I have improved physically and saved money by not purchasing any expensive supplements.

Another way to save money is by cooking large meals that can be consumed throughout the week. For example, over the weekend, my wife and I will often cook a whole turkey or chicken, a large pot of beef stew or chicken soup, or a large pot of chili. These large meals provide leftovers for several days.

Questions and Answers

Ross, can you provide a sample day in the life of your nutritional plan?

Oatmeal is one of my favorite breakfast foods, and I am not talking about the processed, presweetened crap. Always choose natural oats that must be cooked in boiling water, as opposed to the *processed* instant oatmeal varieties. I mix plain oatmeal with walnuts, cinnamon, honey, and raisins. I may also add ground flax seeds to the oatmeal. In addition to the oatmeal, I will typically have some fruit, and a glass of raw milk. I also enjoy eating eggs for breakfast. I may scramble several eggs, and then eat some fruit or possibly toast (organic whole wheat bread). I often alternate between oatmeal on one day and eggs the next.

During the day, I snack on fresh fruit and (raw) vegetables. A few of my favorite fruits include apples, pears, plums, kiwi, berries, and oranges. For vegetables, I enjoy green beans, snow peas, peppers, and carrots. I also snack on almonds, pecans, walnuts, pine nuts, pumpkin seeds, and sunflower seeds. I eat these items as part of my mid-morning and mid-afternoon meals. For example, I will eat breakfast at 6AM, have a snack at 9AM, eat lunch at 12PM, have another snack at 3PM, and then eat dinner at 6PM (or later depending on the gym schedule).

Lunch will typically include leftovers from a previous dinner, or possibly a sandwich. The most common sandwiches are either chicken on organic whole wheat bread or organic peanut butter on organic whole wheat bread. I will also have some fresh fruit or vegetables with the sandwich.

Dinner typically includes chicken, beef, or fish, with fresh vegetables, spinach salad, and possibly some organic brown rice or yams. I mix and match different vegetables and meats to keep things interesting and tasty. I also enjoy chili, beef stew, chicken soup, and organic whole wheat pasta.

Ross, you suggest eating nuts such as walnuts, pecans, and almonds. Aren't these items high in fat?

The world's obesity problem did not develop by excess consumption of walnuts, pecans, and almonds. On the contrary, these nuts offer valuable fats, essential for normal bodily functions. Once again, I recommend consuming natural foods without worrying about specific nutrient ratios. By simply eating various natural foods, you will receive an appropriate balance of vital nutrients.

I am a professional fighter. Are you suggesting that I do not need to take sports supplements?

As mentioned earlier, your need for supplementation will be less if you are consuming a diet rich in organic, natural foods. With that said, if additional supplements can benefit your performance, you should consider their use. As a professional fighter, your success as an athlete will determine your ability to generate income. The supplement industry is constantly changing, and often improving. Websites such as *www.bodybuilding.com* offer reviews of many popular products. It is impossible to provide a definitive list of supplements, as new products are developed each day. You will be better off reading the reviews of a major supplier such as the above referenced website.

I enjoy eating pasta. Is it bad to eat pasta regularly?

I grew up in an Italian household. I was raised on pasta. Pasta has always been a favorite of mine. Although I believe we should all eat to live, rather than live to eat, we must also enjoy our lives. I enjoy pasta, and continue to include it in my nutritional plan. Rather than eating traditional white pasta, I eat organic whole wheat pasta. It may not taste as good as the pasta I grew up on, but it gets the job done and is much healthier than any white flour product.

As with everything in this world, moderation is imperative.

Ross, I am trying to lose weight, should I start counting calories?

Whether you are trying to gain weight or lose weight, it is not necessary to count calories. Commonsense is invaluable. If you wish to lose weight, you will need to increase your conditioning work and decrease food consumption. If you wish to gain weight, you will need to gradually increase food consumption.

Furthermore, by simply switching to the foods detailed throughout this chapter, you will likely lose excess body fat. When you remove items such as sugary juices and white flour, weight loss is common.

Summary

To many readers, this chapter may offer a rude awakening. Unfortunately, we live in a polluted world. Whether it is the air we breathe, the water we drink, or the food we consume, we are surrounded by contaminants.

It is impossible to avoid all forms of contamination. We can however minimize our exposure by becoming educated consumers. The food industry is out to make money. As consumers, we must put pressure on these establishments to offer more organically grown items.

As consumers, we have much more power than we realize. By demanding organic and natural foods, the food industry must supply these items. Consequently, the availability of organic food will increase. As the supply increases, prices will start to drop. The industry will be forced to adapt their business model to satisfy consumer demand.

The market is already starting to change. The organic food industry is growing at a rate of 5 to 10 percent each year. In my region, there is a Whole Foods Market as well as a Wild Oats. Due to the increased popularity of these establishments, one of the larger grocery stores in my area recently launched a new organic product line, offering a vast selection of organic items. The decision behind this product line was clearly a result of increased consumer demand, as well as a way to compete with the health food stores offering organically produced items.

My advice is to eat as much organic and natural food as possible. Stay away from those items that man has altered or created in a laboratory. Real food is far more beneficial for sports nutrition and lifelong health and vitality. You will be surprised at the changes you experience by simply removing the highly processed items from your daily intake.

As consumers, we must make educated purchases. Due diligence is performed when buying a car, a home, a computer, and even a book. Unfortunately, we put too much trust in the food industry, often failing to perform the necessary research. Do not make this mistake. Arm yourself with knowledge. An educated consumer is a healthy consumer.

PROGRAM DESIGN QUICK REFERENCE

Background Information	195-198
50-Day Plan Overview	198-202
50-Day Plan Chart	203-204
ICT Workouts	205-210
EIT Workouts	210-212
Strength Workout Advanced	215
Strength Workout Intermediate	216
Explosive Strength Workout I	217
Explosive Strength Workout II	228
Additional Routines	219
Minute Drills	220
Beginner Plan	222

PROGRAM DESIGN

"People often say that motivation doesn't last. Well, neither does bathing - that's why we recommend it daily." - Zig Ziglar

Thus far, I have presented several exercises. Putting the pieces together into a workable plan can be a difficult task. The exercise list is useless without a logical plan. Obviously, you cannot perform each exercise and variation in one workout. We must construct a well-thought plan to maximize the exercises presented within the text.

This is where matters get a little tricky. There is no single plan that will satisfy the needs of each athlete. We each have unique goals, abilities, work schedules, and personal lives. No routine is perfect for everyone. A cookie cutter is a useful tool in the bakery industry, but *cookie-cutter training plans* are limited in value.

Although I have included sample plans in this chapter, I encourage you to read through the entire text to learn how you can tailor a program suited towards your own goals. The sample plans are not set in stone. I have included these plans as a way to illustrate the more important principles that can and should be applied to each program.

Many athletes make the mistake of searching for the silver bullet. They seek the latest and greatest training program. They want a program that they can follow exactly as it is written. They fail to realize that each program is developed to accomplish a specific goal for a specific population.

I often receive emails from novice fighters who are searching for the training routines of past champions. In their eyes, if they follow the exact routine, they too will become a champion. These beginners then start working with an advanced routine, which is beyond their physical abilities. They set themselves up for failure. A beginner has no business training like a world champion. His body is not prepared for the stress of such an intense routine. The champion has spent many hard years in the gym. There are no shortcuts to the top.

Another problem with program design is paralysis by analysis. Athletes who suffer from this *syndrome* spend more time searching and constructing plans than they do training. They are always looking for a new way to train. Their endless search however takes away from the time that would otherwise be spent in the gym. Once again, it boils down to the fact that there are no magic plans. More is not always better. Simple plans work and get the job done.

Consider the prison system in this world. You could go to any prison and you will be sure to encounter some extremely muscular, well-conditioned inmates. The inmates have developed their physiques despite the fact that there are no strength and conditioning coaches on hand to assist with program creation. Equipment is minimal, and often nonexistent. There are no supplement stores or organic foods. There are no nutritionists.

All the prisoners have is time and determination. It is as if spontaneous combustion occurs when you combine these two attributes. Suddenly, these men can develop imposing physiques without access to all the latest fitness gizmos, designer supplements, and breakthrough advancements in the strength and conditioning world.

What is the moral to this story? Simple plans produce results if you are willing to put in the work. With diligence and determination, you will improve and succeed. Without these attributes, no program will help you.

Constructing A Plan

The first step in constructing a plan is determining what you wish to accomplish. Hard work is not always better work. As mentioned earlier, running a marathon is a difficult task, but it doesn't mean we should all go out and run 26 miles each day. Training hard is important, but training smart is invaluable.

Smart training starts by determining your specific goals. Are you trying to lose weight, gain strength, or prepare for a specific event? You need to answer these questions, and then determine a plan that will allow you to achieve your specific goals.

Personally, my area of concentration has always been the combat sporting world. I admit my bias towards this audience, but I also believe that the concept of well-rounded development is applicable to a much larger population. I have not competed in years, but I still train with the goal of balanced development in terms of strength and conditioning. Combat sporting events are multifaceted in nature. It is not enough to be strong if your conditioning is lacking. A combat athlete requires skill, strength, power, speed, endurance, agility, and more. These attributes are beneficial to all athletes.

My training philosophy is one that integrates several methods, all with the goal of creating an athlete who is *always ready* for whatever life or competition may

throw at him. Unfortunately, many training plans fail to comply with this simple concept. Rather than training for multifaceted development, individual attributes are developed separately. For example, an athlete may develop maximal strength for several weeks. He then shifts his emphasis towards explosive strength. After several weeks of explosive strength training, he shifts gears yet again, this time towards strength endurance. While working on this attribute, the improvements in maximal strength, which were developed several weeks earlier, are all but lost. Explosive strength also fades as the athlete dedicates all of his time towards strength endurance. As one attribute improves, previously developed attributes gradually decline.

At any given moment, the athlete is only strong in one area. He lacks multifaceted development. This is a clear flaw in the combat sporting world, where the concept of a season does not exist. Athletes are encouraged to compete throughout the year. There is no official off-season. For this reason, it is imperative to retain the *always ready* state of preparedness.

To accomplish this goal, I find it beneficial to incorporate concepts from the conjugate model of periodization, as well as the concurrent model. Periodization simply refers to the organization of one's training plan to best prepare for a specific objective. Our objective is to always be ready.

Conjugate periodization is defined as "successfully introducing into the training programme separate, specific means, each of which has a progressively stronger training effect, and coupling them sequentially to create favourable conditions for eliciting the cumulative effect of all the training loads" (Siff, 2003a).

In layman's terms, the conjugate method enables the athlete to simultaneously improve several physical qualities. One must maintain proficiency in all physical qualities to maximize performance. It is not enough to be strong or well conditioned for a few months, particularly if you compete throughout the year.

The concurrent system is defined as "parallel training of several motor abilities, such as strength, speed, and endurance, over the same period, with the intention of producing multifaceted development of physical fitness" (Siff, 2003a).

As I have written in the past, many coaches who believe they are using the conjugate method are in fact utilizing a concurrent model. When training a combat athlete, I believe it is important to borrow concepts from both models. The multifaceted nature of these events is unlike any seasonal sport. Periodization models that were created for less multifaceted events must be tweaked to comply with the complex nature of the combat sporting world. In the sample plan that follows, the strength training aspect of the workout will

follow a conjugate model. The conditioning routines will include a concurrent spin, as several motor abilities will be simultaneously developed. The result of this combination will be the development of an athlete who is well versed across several strength qualities, who also possesses the endurance to apply this strength whenever necessary.

Putting The Pieces Together

Throughout the rest of this chapter, I will review several training plans that will help you formulate a plan specific to your goals. I spent several months testing the workouts and plans from this chapter. I have been very pleased with the results.

A workout template for the main plan is illustrated below.

Day 1	Day 2	Day 3	Day 4	Day 5
Integrated Circuit Training	Strength Workout (Maximal)	Enhanced Interval Training	Strength Workout (Explosive)	Rest Day
Isometrics	Core Training	Isometrics	Core Training	Additional Work Optional

This routine revolves around a five-day training cycle. Four days are dedicated to training, with the fifth day reserved for rest. This program blends several physical attributes into each five-day block.

Day 1 - The first day of each 5-day split involves an Integrated Circuit Training routine. This protocol was discussed in the conditioning chapter. These routines will blend strength and conditioning aspects into one routine. Ten sample workouts are listed later in this chapter. If you were to perform this five-day cycle for fifty days, you would perform each circuit once. The goal of each circuit is to provide a unique challenge. Each five-day cycle involves a new workout. You will be unable to adapt to a specific routine. Variety in conditioning workouts is extremely important. The mind will remain fresh, and the body will be forced to work through unfamiliar territory. If you perform the same conditioning workout each week, you will not only adapt to the routine (hence minimize improvements), but you will also battle mental staleness due to the monotony of training.

Day 1 can also include a brief isometric workout. I recommend training isometrics as a mini-workout at a different time during the day (not immediately before or after the Integrated Circuit Training session). For example, you may perform a brief isometric workout in the morning, and then perform the Integrated Circuit Training session in the evening (or vice versa).

Day 2 - The second day of each 5-day split is dedicated to maximal strength training.

Sample workouts are provided later in this chapter. Please note however that it is impossible to create universal bodyweight strength workouts. Bodyweight exercise is much different from weight training. A sample weight workout may require 4 sets of 5 repetitions on the bench press. Whether you are a novice or advanced lifter, you could perform this workout. The novice would simply work with less weight. He may bench press 100 pounds, while the more experienced lifter works with sets of 300 pounds.

Now, consider a bodyweight strength workout. Suppose a rock climber was training with 3 sets of 5 one-arm chin-ups. What happens if you are unable to perform a one-arm chin-up? You cannot complete the workout. When training for strength, bodyweight exercise workouts must be unique to the individual. Certain exercises may be too difficult for you to perform. Others may be too easy on a rep-for-rep basis. If you can perform 30 pull-ups, it would not make sense to perform pull-ups during a maximal strength workout. If you can only perform 2 repetitions however, the exercise will serve your needs for maximal strength training.

Clearly, the strength workouts must be modified to your current abilities. As mentioned before, one exercise may serve as a strength endurance movement for one athlete, while it serves as a maximal strength movement for another athlete. For this reason, it is important for you to identify those exercises within your current abilities.

A partial list of exercises ideal for Day 2 workouts are presented below:

- One-arm pushup variations
- Weighted pushups, dips, and bodyweight triceps extensions
- Weighted pull-ups
- One-arm chin-up progressions
- Handstand pushups
- One-legged squats
- Glute-ham raise
- High-tension resistance band exercises

If you find these movements too difficult, refer to the beginner plan described on page 222.

Day 2 will also require a dedicated core workout. This workout can either be performed as part of the strength workout, or at a different time during the day. If you are working with strenuous movements such as the one-arm wheel rollout, you may wish to include this movement in the actual strength workout. You could then close the strength workout with less strenuous movements such as rotational work with a resistance band.

Another option would be to perform the core workout at another time in the day. For example, you could train the core in the morning, and then perform the strength routine later in the evening (or vice versa).

Day 3 - The third day of each 5-day split is dedicated to Enhanced Interval Training. Five sample workouts are listed later in this chapter. If you were to perform this five-day cycle for fifty days, you would perform each circuit twice (once every five cycles).

Day 3 can also include a brief isometric workout. I recommend training isometrics as a mini-workout at a different time during the day (not immediately before or after the Enhanced Interval Training session). For example, you may perform a brief isometric workout in the morning, and then perform the Enhanced Interval Training session in the evening (or vice versa).

Day 4 - The fourth day of each 5-day split is dedicated to strength training, with an emphasis on more *explosive* qualities such as explosive strength and speed strength. Sample exercises include any of the pushup variations where the hands leave the ground, pull-up variations where the hands leave the bar (ex. clapping pull-ups), muscle-ups, and any of the lower body jumping movements.

If you are not interested in using these methods, you can instead dedicate Day 4 towards strength endurance. This day would instead include higher repetition sets of unweighted bodyweight exercises. Examples may include pushups, pull-ups, and squats. The change from explosive strength to strength endurance is an example of modifying the routine to your specific goals and interests. Remember, no routine will work for everyone. Customize the plan to meet your needs.

Day 4 will also require a dedicated core workout. This workout can either be performed as part of the strength workout, or at a different time during the day.

Day 5 - The fifth day of each 5-day split is reserved for rest. If you choose to exercise, limit the intensity of your training session.

Additional Information

The 50-day sample routine from pages 203-204 includes a *back-off strength workout* during every fifth cycle. The back-off strength workouts will take place on Day 22 and Day 47. During this session, you should choose less intense exercises than those performed during the previous four cycles.

For example, suppose you have been working with strenuous one-arm chin-up progressions for the first four cycles. During the fifth cycle, you will not perform these strenuous exercises. You will instead perform a slightly less intense movement such as weighted chin-ups with a moderate load. Another example could involve one-arm pushups. Suppose you have been working with one-arm pushups with the feet elevated from blocks. You have performed this exercise throughout each five-day cycle. During the fifth cycle, you will *back-off* from this exercise, and instead perform weighted pushups with a moderate load. The *back-off workouts* should not be easy, but will be much less strenuous when compared to the previous five-day cycles.

Day 24 and Day 49 will also include a *back-off* session. There will be no explosive strength workout on either day. This day will instead include higher repetition work, as the emphasis temporarily shifts to strength endurance. For example, you can perform pushups, pull-ups, dips, squats, and lunges with higher repetition sets.

These two back-off cycles will provide the central nervous system with a slight break from the intensity. It is not possible to continually increase intensity each week. As mentioned earlier in this text, research indicates that three or four week blocks are ideal for strength development, followed by a brief period of less intense work to promote restoration. The back-off cycle allows you to rest and realize the effects of the previous four cycles of intense activity. As stated by Zatsiorsky, the adaption to strenuous loading occurs during a period of reduced loading, not during a period of intense loading (1995). A delayed training effect takes place. The body is given time to rest and reap the rewards of the previously performed intense training cycles. Periods of diminished loading must be included to reap the full benefits of the intense loading period. Constant increases in intensity will eventually lead to overtraining and burnout.

Summary

Each five-day split includes:

One strength workout dedicated to maximal strength
One strength workout dedicated to explosive strength
Two core workouts
Two isometric mini-workouts
One day of Enhanced Interval Training
One day of Integrated Circuit Training

Every fifth cycle (each cycle = 5 days) will include a back-off strength workout in place of the maximal strength workout **and** a strength endurance workout in place of the explosive strength workout.

Pages 203 and 204 provide a chart of the 50-day plan.

Day 1 through Day 25

Day 1	Day 2	Day 3	Day 4	Day 5
Integrated Circuit Training **ICT Workout 1**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 1**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 6	**Day 7**	**Day 8**	**Day 9**	**Day 10**
Integrated Circuit Training **ICT Workout 2**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 2**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 11	**Day 12**	**Day 13**	**Day 14**	**Day 15**
Integrated Circuit Training **ICT Workout 3**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 3**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 16	**Day 17**	**Day 18**	**Day 19**	**Day 20**
Integrated Circuit Training **ICT Workout 4**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 4**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 21	**Day 22**	**Day 23**	**Day 24**	**Day 25**
Integrated Circuit Training **ICT Workout 5**	Strength Training *Back-Off Strength Workout*	Enhanced Interval Training **EIT Workout 5**	Strength Training *Strength-Endurance Session*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	

Day 26 through Day 50

Day 26	Day 27	Day 28	Day 29	Day 30
Integrated Circuit Training **ICT Workout 6**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 1**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 31	**Day 32**	**Day 33**	**Day 34**	**Day 35**
Integrated Circuit Training **ICT Workout 7**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 2**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 36	**Day 37**	**Day 38**	**Day 39**	**Day 40**
Integrated Circuit Training **ICT Workout 8**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 3**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 41	**Day 42**	**Day 43**	**Day 44**	**Day 45**
Integrated Circuit Training **ICT Workout 9**	Strength Training *Maximal-Strength*	Enhanced Interval Training **EIT Workout 4**	Strength Training *Explosive-Strength*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	
Day 46	**Day 47**	**Day 48**	**Day 49**	**Day 50**
Integrated Circuit Training **ICT Workout 10**	Strength Training *Back-Off Strength Workout*	Enhanced Interval Training **EIT Workout 5**	Strength Training *Strength-Endurance Session*	Rest Day
Isometrics	Core Training	Isometrics	Core Training	

Let's now review the specific workouts. ICT = Integrated Circuit Training

ICT Workout 1

1. Burpees
2. Pull-ups
3. Squats
4. Pushups

ICT Workout 1 consists of four exercises (burpees, pull-ups, bodyweight squats and pushups). This workout is commonly referred to as ***No Excuses.*** The total time requirement is 10-minutes. Can't be too bad, right?

The workout begins with a 60 second interval of each exercise. You then move immediately to a 45 second interval, then 30 seconds, and finally 15 seconds.

First Round

- Burpees x 60 seconds
- Pull-ups x 60 seconds
- Squats x 60 seconds
- Pushups x 60 seconds

Second Round

- Burpees x 45 seconds
- Pull-ups x 45 seconds
- Squats x 45 seconds
- Pushups x 45 seconds

Third Round

- Burpees x 30 seconds
- Pull-ups x 30 seconds
- Squats x 30 seconds
- Pushups x 30 seconds

Fourth Round

- Burpees x 15 seconds
- Pull-ups x 15 seconds
- Squats x 15 seconds
- Pushups x 15 seconds

Move from one exercise to the next without stopping. There is no rest between rounds. If you become stuck with an exercise, rest briefly and do your best to continue. If you run out of gas on the pull-up bar, try to hang from the bar for the remaining time, rather than simply sitting down to rest.

If **ICT Workout 1** is too difficult, you can substitute the following movements:

1. Jump Rope
2. Pushups
3. Bodyweight Squats
4. Chinnies

ICT Workout 2

- 10 Medicine Ball Woodchoppers
- 15 Medicine Ball Slams
- 10 Burpees

Repeat 8 times

The instructions for **ICT Workout 2** are straightforward. Perform the circuit eight times. Complete this workout as fast as possible. There should be no rest between the three exercises. You can then rest if necessary after completing a trip through the entire circuit. Strive to perform all eight circuits with minimal rest.

ICT Workout 3

ICT Workout 3 will require a standard deck of 52 playing cards. Each red card (diamonds and hearts) will require a set of burpees. Each black card (spades and clubs) will require a set of pushups.

To perform the workout, start with a fully shuffled deck of cards. All face cards (Jack, Queen, and King) have a value of 10. Aces have a value of 11. Number cards will be face value (ex. 7 of spades = 7 pushups). Do not use Joker cards.

Each card requires a set of pushups or burpees, depending on the color of the card. Strive to work through the entire deck as fast as possible. If burpees become too difficult, switch to squat thrusts.

Deck of Cards

- Burpees for every red card
- Pushups for every black card

Replace Burpees with Squat Thrusts if necessary

ICT Workout 4

Part 1

10 Burpees
20 Lunges
30 Bodyweight Squats

Repeat 5 times

Part II

10 Pull-ups
20 Power Overs
10 Resistance Band High Pulls

Repeat 5 times

ICT Workout 4 includes two segments. Part I will target the lower body. You will perform this circuit five times. There is no rest between exercises. Rest approximately 30 to 60 seconds between circuits.

Part II is slightly different. You will perform this portion **without** designated rest between circuits. Your goal is to perform the five circuits as fast as possible. Rest comes on an *as needed* basis. Your legs will be fatigued from the first portion of the drill. You will then *suck it up* and *fight* through five upper body circuits.

ICT Workout 5

- 10 Burpees
- 10 Chinnies
- 10 Squats
- 10 Pushups

Repeat as many times as possible in 20-minutes

ICT Workout 5 consists of four exercises. You will perform a set of 10 repetitions for each exercise. Repeat the entire four-exercise circuit as many times as possible in 20-minutes.

ICT Workout 6

- 100 rope turns with jump rope
- 10 Plyometric Pushups (variation on top of page 79)
- 15 Medicine Ball Slams
- 20 Lateral Jumps over the med ball

Repeat 8 times

Replace lateral jumps with bodyweight squats if necessary

Perform the circuit eight times. Complete this workout as fast as possible. There should be no rest between the four exercises. You can then rest if necessary after completing a trip through the entire circuit (ex. 30 to 60 seconds). Strive to perform all eight circuits with minimal rest.

When jumping rope, turn the rope 100 times as fast as possible. You will be sprinting in place with the jump rope.

ICT Workout 7

- Start with 100 Burpees
- Rest 2-minutes
- Tabata Squats
- Tabata Pushups

ICT Workout 7 begins with a race to 100 burpees. You will perform 100 burpees as fast as possible. Upon reaching your 100th repetition, you will have 2-minutes of rest.

You will then finish with two Tabata Intervals (total time = 8-minutes). The exact sequence is listed below.

- Perform 100 Burpees as fast as possible
- Rest 2-minutes
- Proceed to Tabata Squats and Pushups

Tabata Squats

- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds
- Squats x 20 seconds
- Rest x 10 seconds

Tabata Pushups

- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds
- Pushups x 20 seconds
- Rest x 10 seconds

ICT Workout 8

ICT Workout 8 comes from the *Infinite Intensity* text. I have had so much fun with this routine that **I**'ve decided to include it again. There are four movements, each to be performed nonstop, with no rest between exercises. Continue this workout for 20-minutes. Your goal is to perform the circuit 10 times in 20-minutes. You will begin a new circuit on every 2nd minute (ex. 2, 4, 6, 8, 10, 12, 14,16, and 18-minutes). The circuit will average around 75 seconds (+/-10 to 15 seconds). This will allow approximately 45 seconds of rest between cycles.

For example:

- Start the routine at time 0:00
- Circuit lasts 75 seconds (ending at 1:15)
- Rest 45 seconds (until 2:00)
- Begin second pass through circuit at 2:00
- This cycle will continue for 20-minutes, or until you have completed 10 circuits.

The Exercises

- 5 Pull-ups
- 10 Medicine Ball Slams
- 15 Burpees
- 20 Jumping Jacks

Perform each movement as fast as possible. Move from one exercise to the next without stopping.

ICT Workout 9

- Burpees x 60 seconds
- Chinnies x 60 seconds
- Divebomber Pushups x 60 seconds
- Lunges x 60 seconds
- Medicine Ball Slams x 60 seconds
- Rest 60 seconds

Repeat 3 times

ICT Workout 9 is a five-minute drill. You will perform five exercises back to back, each for 60 seconds. You will then rest 60 seconds and continue. Perform three rounds (each round = 5-minutes). Strive to perform as many repetitions as possible for each exercise.

ICT Workout 10

- 30 Bodyweight Squats
- 10 Band High Pulls
- 10 Band Chest Press

Repeat 10 times

The instructions for **ICT Workout 10** are straightforward. Perform the circuit ten times. Complete this workout as fast as possible. There should be no rest between the three exercises. You can then rest if necessary after completing a trip through the entire circuit. Strive to perform all ten circuits with minimal rest.

ICT Summary

The ICT workouts vary in intensity. If you move fast enough, each workout will offer a unique challenge, both physically and mentally. Strive to work through each challenge as fast as possible.

Regular use of these workouts will push your work capacity to new levels.

Let's now review the **Enhanced Interval Training** routines. EIT = Enhanced Interval Training

EIT Workout 1

- 12 Burpees
- 24 Pushups
- 36 Squats
- 400 Meter Run

Complete four circuits

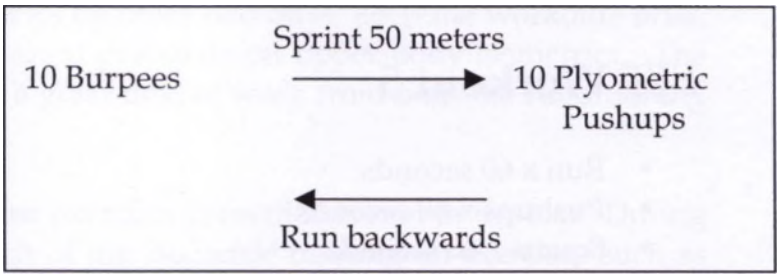
EIT Workout 1 is a workout that I have used for many years. This workout has been dubbed **The Interval Challenge**.

This workout starts with a series of bodyweight calisthenics. You will perform 12 burpees, 24 pushups, and then 36 squats. You will then continue with a 400

meter interval. There are no designed rest periods. Rest comes on an as needed basis. Your goal is to complete the circuit four times, as fast as possible.

EIT Workout 2

- 10 Burpees
- Sprint 50 Meters
- 10 Plyometric Pushups
- Run backwards to starting line



Continue for 15-minutes

EIT Workout 2 is a timed challenge. You will perform the four-exercise circuit as many times as possible in 15-minutes. Perform 10 burpees, sprint 50 meters, and then perform 10 plyometric pushups (the variation from the top of page 79). Next, you will run *backwards* back to the starting line. Continue with another trip through the circuit. Keep working for 15-minutes.

EIT Workout 3

- Run 400 meters
- 20 Medicine Ball Slams
- Rest 60 seconds

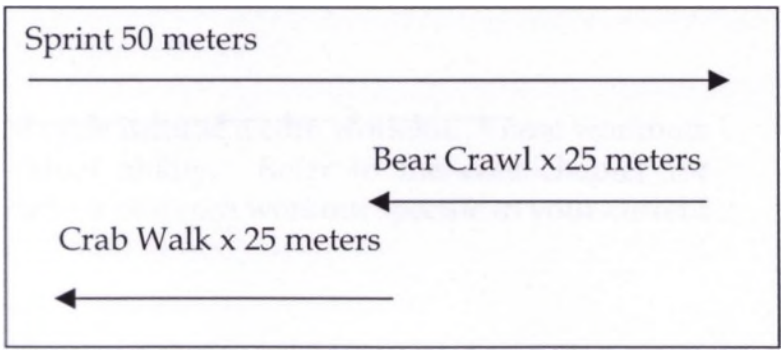
Repeat 6 times

At first glance, this workout appears similar to **EIT Workout 1**. It is actually quite different however. Unlike **EIT Workout 1**, you will start with a 400 meter interval. You will be fresh for the run. You will be able to run at a much faster pace. Upon completing the run, you will be tired, yet forced to display explosive strength with the upper body (similar to what happens in a fight). Slam the medicine ball 20 times as hard as possible. Rest for one-minute, and continue until 6 circuits are complete.

EIT Workout 4

- Sprint 50 Meters
- Bear Crawl x 25 meters
- Crab Walk x 25 Meters

Continue for 15-minutes



EIT Workout 4 is another timed challenge. You will perform the three-exercise circuit as many times as possible in 15-minutes. Sprint 50 meters. You will then work back to the starting point. Start with 25 meters of bear crawling, and finish with 25 meters of crab walking. As soon as you reach the starting point, start over with another 50 meter sprint. Keep working for 15-minutes.

EIT Workout 5

- Run x 60 seconds
- Pushups x 60 seconds
- Squats x 60 seconds
- Rest x 60 seconds

Repeat 4 times

EIT Workout 5 is very challenging. You will start with 60 seconds of running. Your goal is to cover as much ground as possible. As soon as 60 seconds is completed, you will immediately transition to 60 seconds of pushups and finally 60 seconds of squats.

Rest 60 seconds after completing this circuit. Perform 4 circuits.

EIT Summary

The EIT workouts will challenge anyone, assuming you work as fast as possible. I encourage you to also experiment with your own EIT workouts. The options are literally endless. You are only limited to your imagination.

If you wish to skip an EIT workout, you can instead perform a hill sprint workout or a car-pushing workout. For example, find a hill and sprint it 10 times. Perform an exercise such as pushups or medicine ball slams at the top of the hill. If you prefer to push a car, you can work with 10 sprints across a large parking lot. Drop and perform a set of burpees or pushups after each car sprint.

For an indoor alternative, you can work with band sprints.

Isometric Workouts

Day 1 and Day 3 of each five-day cycle include an isometric workout (optional).

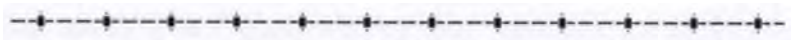
If you choose to perform isometrics on these two days, keep the workouts brief. While testing the program, I focused primarily on upper body isometrics. The lower body is already receiving a great deal of work from both the conditioning and strength workouts.

You can select any of the isometric exercises presented earlier in the text. During these *mini-workouts,* I focus much of my isometric training on exercises such as the wall press, overhead press, bent over row (towel pull), isometric punches, and neck work.

A brief workout may include a few trips through the following sequence:

- Wall Press x 5 seconds (starting range, mid-range, peak-range)
- Bent Over Row x 5 seconds (starting range, mid-range)
- Overhead Press x 5 seconds (starting range, mid-range, peak-range)

Finish with Neck Work



Another option would be to train the isometric jab, cross, hook, and uppercut with multiple joint angles. When training isometric punches, I usually focus solely on the punches, rather than including traditional exercises such as the overhead press. I like to focus all of my energy to the punches, without being sidetracked by other exercises.

Clearly, there are several options for isometric training. Target those areas that interest you (ex. a fighter will enjoy training isometric punches), or where you see a potential weakness (ex. use the hamstring exercises if you are unable to perform the glute-ham raise).

Core Workouts

Day 2 and Day 4 of each five-day cycle include a core workout. These workouts will vary based on your individual ability. Refer to the core chapter for information regarding the construction of a core workout specific to your current ability.

Most of my core training includes exercises such as standing wheel rollouts, the flag, rotational work with bands, isometric bridge holds (and bridge-to-stands), and L-sit holds. I mix it up throughout each week. I may take a few weeks to build repetitions on the standing wheel rollout, before switching my focus to another exercise such as the bridge-to-stand.

My advice is to identify those exercises within your reach, as well as a group of exercises that you would like to achieve. Start the core workouts with the most difficult movements. The body must be fresh to display optimal strength. Finish your core workouts with less intense movements, as the focus shifts towards strength endurance (ex. high rep chinnies and V-ups).

Strength Workouts

Strength workouts will be performed on Day 2 and 4 of each five-day cycle. Day 2 will emphasize maximal strength. Day 4 will focus on more explosive strength qualities.

As mentioned earlier, the specifics of each strength workout depend largely on your current abilities. Experimentation may be required to determine which exercises are suitable for your strength workouts.

I have provided some samples in this section, but please do not view these samples as *set in stone.* I encourage you to create your own strength workouts, specific to your goals.

When focusing on maximal strength development, you should work with relatively low repetition sets. Do not choose exercises that allow high repetitions (ex. bodyweight squats). The focus of these workouts is brute strength, not strength endurance.

When constructing a strength routine, I typically alternate between an upper and lower body exercise. By sequencing the exercises in this manner, I can spend more time training, and less time sitting on my ass, recovering between sets.

For example, I may perform one set of one-arm pushups, rest briefly, and then perform a set of glute-ham raises. I will then rest briefly and continue with another set of one-arm pushups. While the upper body is working, the lower body has time to recover, and vice versa. Structuring the workouts in this manner is convenient and effective.

Sample Strength Workout (Advanced)

A1	**Pull-up variation**	4 sets x *quality set*
A2	**Glute-Ham Raise**	4 sets x *quality set*
B1	**One-Arm Pushups**	4 sets x *quality set*
B2	**One-Legged Squats**	4 sets x *quality set*
C1	**Handstand Pushups**	4 sets x *quality set*
C2	**Band Good Mornings**	4 sets x 15 to 20 reps
D1	**Bodyweight Triceps Extension**	3 sets x *quality set*
D2	**Calf Raises**	3 sets x *quality set*

Workout Notes

1. Exercises are paired in mini-circuits. For example, the workout starts with pull-ups and glute-ham raises. The notation A1 represents the first movement (pull-ups). The notation A2 represents the second movement (glute-ham raise). You will perform one set of A1, rest approximately **45 to 60 seconds**, and then perform A2. You will rest another **45 to 60 seconds** and continue with another pass through the mini-circuit (returning to A1). Exercises have been grouped in this fashion to facilitate shorter rest periods between individual exercises.

2. Rest 45 to 60 seconds after each set of exercise. For many exercises, a specific number of repetitions are not provided. Instead, the phrase *quality set* is used. A *quality set* stands for a set that stops a few repetitions short of failure. For example, if you can perform 5 weighted pull-ups before failing, you will instead perform a set of 4 reps. You will leave 1 or 2 repetitions *in the hole.*

3. When performing *pull-ups,* incorporate variety. Sample variations include weighted pull-ups or chin-ups, one-arm progressions, towel pull-ups, and rope pull-ups. Add weight to these variations if possible.

4. When performing *one-arm pushups,* incorporate variety. You have several options. Refer to pages 65-70 for ideas.

    a. If you do not wish to perform one-arm pushups, you can instead choose weighted pushups, using any of the variations listed in the pushup chapter (ex. close-grip divebombers, divebombers with

hands on medicine ball, or ring pushups). Band pushups (page 60) can also be performed with a high-tension resistance band.

5. If one-legged squats are too difficult, you can perform partials, or work with resistance band squats.

6. Finish the workout with 3 sets of bodyweight triceps extensions and calf raises. Wear a weighted vest if possible.

7. If you wish to perform core work with the strength training session, you could start this workout with one-arm wheel practice. You could then remove bodyweight triceps extensions at the end of the workout. Instead, you would practice your L-sit, and finish with rotational work using resistance bands (ex. Russian twist).

8. When possible, add a weighted vest to this workout.

Sample Strength Workout (Intermediate)

A1	**Body Rows**	4 sets x 10
A2	**Hamstring Curls** (page 103 or 104)	4 sets x 10
B1	**Pushup variation**	4 sets x *quality set*
B2	**Assisted One-Legged Squats**	4 sets x *quality set*
C1	**Pike Press**	4 sets x 10
C2	**Band Good Mornings**	4 sets x 15 to 20 reps
D1	**Calf Raises**	3 sets x *quality set*

Workout Notes

1. Exercises are paired in mini-circuits. For example, the workout starts with body rows and hamstring curls. The notation A1 represents the first movement (body rows). The notation A2 represents the second movement (hamstring curls). You will perform one set of A1, rest approximately 45 to 60 seconds, and then perform A2. You will rest another 45 to 60 seconds and continue with another pass through the mini-circuit (returning to A1). Exercises have been grouped in this fashion to facilitate shorter rest periods between individual exercises.

2. Rest 45 to 60 seconds after each set of exercise. For many exercises, a specific number of repetitions are not provided. Instead, the phrase *quality set* is used. A *quality set* stands for a set that stops a few repetitions short of failure. For example, if you can perform 10 resistance band pushups before failing, you will instead perform a set of 8 reps. You will leave 1 or 2 repetitions *in the hole.*

3. If you are able to perform pull-ups, you can replace body rows with any pull-up variation.

4. When performing *pushups,* incorporate variety. You have several options. A few examples include ball pushups (page 59), band pushups (page 60), and pushups between 3 blocks (page 60).

5. If assisted one-legged squats are too difficult, substitute resistance band squats.

6. When performing band good mornings, work with higher repetitions. For example, perform 15 to 20 reps.

7. If you prefer to incorporate core work with the strength training session, you could start this workout with an exercise that challenges you such as the two-hand standing wheel rollout or L-sit. You could then finish the workout with two core movements (ex. V-ups and Russian twists).

8. When possible, add a weighted vest to this workout.

Sample *Explosive* Strength Workout I

A1	**Muscle-ups** (*from bar or rings*)	4 sets x 8
A2	**Knee Tucks**	4 sets x 12
B1	**Depth Plyometric Pushups (A or B)**	4 sets x 8
B2	**Lunge Jumps**	4 sets x 12
C1	**Clap Pull-ups**	4 sets x 8
C2	**Ankle Hops**	4 sets x 20
D	**Power Overs**	3 sets x 20

Sample *Explosive* Strength Workout II

A1	**Muscle-ups** (*from bar or rings*)	4 sets x 8
A2	**Squat Jumps**	4 sets x 12
B1	**Full Body Plyometric Pushups**	4 sets x 8
B2	**Explosive Step-ups**	4 sets x 12
C1	**One-arm Band Pulls** (page 55)	4 sets x 6 per arm
C2	**Ankle Hops**	4 sets x 20
D	**Rope Climbing for time**	3 sets of 3 climbs

Explosive Workout Notes

1. Exercises are paired in mini-circuits. The notation A1 represents the first movement. The notation A2 represents the second movement. Perform one set of A1, rest approximately 45 to 60 seconds, and then perform A2. Rest another 45 to 60 seconds and continue with another pass through the mini-circuit (returning to A1). Exercises have been grouped in this fashion to facilitate shorter rest periods between individual exercises.

2. Rest 45 to 60 seconds after each set of exercise.

3. When performing *Depth Plyometric Pushups,* you can perform variation A or B from pages 80 and 81. Another option is to alternate between each variation. For example, the 1st and 3rd set will be Variation A, while the 2nd and 4th set will be Variation B.

    a. Consider incorporating the static-dynamic protocol with the plyometric pushup exercises. Start each set with a 5-second max-contraction wall press.

4. If you do not wish to perform plyometric pushups, you can instead choose an explosive chest press with high-tension bands.

5. When climbing rope, move as fast as possible. View each climb as a race to the top of the rope.

Additional Routines

If you are not interested in the intense conditioning work from the previous plan, you may prefer the program that is outlined below. This program works on a bi-weekly schedule. The first week includes two maximal strength workouts and one explosive strength workout. The second week includes two explosive strength workouts and one maximal strength workout. You will continue to rotate from week to week.

Week 1

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Strength Workout (Maximal)	Minute Drills	Strength Workout (Explosive)	Interval Training	Strength Workout (Maximal)	Minute Drills	Rest Day
Core Training	Isometrics	Core Training	Isometrics	Core Training	Isometrics	

Week 2

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Strength Workout (Explosive)	Minute Drills	Strength Workout (Maximal)	Interval Training	Strength Workout (Explosive)	Minute Drills	Rest Day
Core Training	Isometrics	Core Training	Isometrics	Core Training	Isometrics	

Routine Notes

1. The sample strength workouts presented earlier in this chapter can be used with this routine.

2. Isometrics are performed via mini-workouts on Day 2, 4, and 6. Core workouts are performed on Day 1, 3, and 5. If you do not wish to include isometric training, consider moving the core workouts to Day 2, 4, and 6.

3. This routine does not include Integrated Circuit Training or Enhanced Interval Training. Day 2 and 6 include Minute Drill routines. Four sample workouts are provided below. Choose one of these drills on Day 2 and 6. Do not perform the same workout on both days.

    a. **Minute Drill Protocol** - When performing one of these workouts, complete the six-exercise sequence without rest. Work through the entire sequence without stopping (total time = 3-minutes). Upon completing the drill, rest 30 to 60 seconds and continue with another trip through the workout. Repeat the drill 4 to 6 times.

    b. Novice athletes can perform each exercise for 20 seconds, as opposed to 30 seconds. This will reduce each drill to 2-minutes (as opposed to 3-minutes).

Minute Drill Workout #1
1. Burpees x 30 seconds
2. Mountain Climbers x 30 seconds
3. Jumping Jacks x 30 seconds
4. Burps x 30 seconds
5. Split Jumps x 30 seconds
6. Grasshoppers x 30 seconds

Rest 30 to 60 seconds
Repeat 4 to 6 times

Minute Drill Workout #2
1. Burpees x 30 seconds
2. Mountain Climbers x 30 seconds
3. Jumping Jacks x 30 seconds
4. Burpees x 30 seconds
5. Split Jumps x 30 seconds
6. Pushups x 30 seconds

Rest 30 to 60 seconds
Repeat 4 to 6 times

Minute Drill Workout #3
1. Burpees x 30 seconds
2. Split Jumps x 30 seconds
3. Grasshoppers x 30 seconds
4. Burpees x 30 seconds
5. Split Jumps x 30 seconds
6. Mountain Climbers x 30 seconds

Rest 30 to 60 seconds
Repeat 4 to 6 times

Minute Drill Workout #4
1. Burpees x 30 seconds
2. Split Jumps x 30 seconds
3. Jumping Jacks x 30 seconds
4. Mountain Climbers x 30 seconds
5. Grasshoppers x 30 seconds
6. Squats x 30 seconds

Rest 30 to 60 seconds
Repeat 4 to 6 times

4. Day 4 includes interval training. A sample interval routine is listed below:

Interval Running Workout

- 6 x 400 meters
    - *6 x 400 meters = six intervals, each consisting of 400 meters. You will run 400 meters, and then rest 60 to 90 seconds before performing the second interval. You will continue until six intervals are completed (total distance = 2400 meters).*

5. If you do not wish to run intervals, you can substitute indoor band sprints or jump rope training. A sample jump rope workout includes 6 x 3-minute rounds, each round separated by 30 to 60 seconds of rest.

6. A sample band sprint workout includes 8 x 30 seconds, each interval separated by 30 seconds of rest.

If you would like to focus even more attention to strength training, you could separate the upper and lower body workouts. Rather than performing a full body workout, you would dedicate entire sessions to the upper or lower body.

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Lower Body Strength Workout	*Upper Body* Strength Workout	Conditioning Workout	*Lower Body* Strength Workout	*Upper Body* Strength Workout	Conditioning Workout	Rest Day
Core Training		Core Training			Core Training	

With this schedule, Day 1 and 4 are dedicated to lower body strength workouts. Day 2 and 5 would then include upper body strength workouts. These workouts could target maximal strength, explosive strength, or strength endurance, depending on your specific interests.

Conditioning workouts are scheduled for Day 3 and Day 6. For these sessions, you could perform interval training, minute drills, or an EIT or ICT workout.

Personally, I prefer to combine upper and lower body strength workouts. This routine may serve your goals however if you want to dedicate more time to pure strength development (as opposed to conditioning).

Beginner Training Plan

If you find the routines from this chapter too challenging, consider working with the beginner plan listed below.

Day 1

1. Pushups — 20 reps
2. Body Rows — 8 reps
3. Bodyweight Squats — 25 reps
4. Hamstring Curls (page 103 or 104) — 10 reps
5. Pike Press — 8 reps

Day 2

Conditioning + Core Workout

Day 3

1. Band Chest Press — 8 reps
2. Band High Pulls — 10 reps
3. Bodyweight Squats — 25 reps
4. Band Good Mornings — 10 reps
5. Bench Dips — 8 reps

Day 4

Conditioning + Core Workout

Day 5

1. Diamond Pushups — 15 reps
2. Body Rows — 8 reps
3. Bodyweight Squats — 25 reps
4. Hamstring Curls (page 103 or 104) — 10 reps
5. Pike Press — 8 reps

Day 6 (Optional)

Conditioning + Core Workout (or Rest Day)

Day 7

Rest Day

Beginner Routine Notes

1. Day 1, 3, and 5 include a circuit workout. You will perform one set of each exercise, one after the other. Minimize rest between exercises. After completing the entire circuit, rest 2-minutes and continue with another trip through the circuit. Strive to complete 3 circuits.

2. Day 2 and 4 include a conditioning workout and core routine. Sample conditioning routines include jogging, swimming, jumping rope, biking, or minute drills. Choose an activity that you enjoy. Strive to exercise for approximately 20-minutes. Finish with a brief core routine. Refer to the core training chapter for samples.

3. Day 6 is an optional training day. Either perform a conditioning workout and core routine or take a rest day.

4. Day 7 is a day of rest.

Chapter Summary

Throughout this chapter, several sample workouts have been discussed. Please do not view these workouts as your only options. These workouts should simply get the wheels turning.

Use the information presented in this chapter to construct a plan specific to your goals and abilities. As mentioned earlier, there are no cookie-cutter routines. No single plan will satisfy the needs of each athlete.

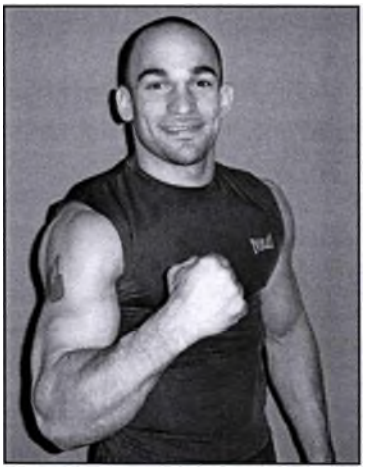
Individual customization is a requirement. No one knows your body better than you do. You are your own best personal trainer. Determine your goals, write them down, and then map out a strategic plan to achieve these goals.

Refer to the next chapter to review several frequently asked questions.

FREQUENTLY ASKED QUESTIONS

"Knowing is not enough; we must apply. Willing is not enough; we must do." - Johann von Goethe

Below, I have provided answers to several questions related to this manual.



Ross, I was told that many of the exercises that you perform are dangerous. Is this true?

Unfortunately, this world is filled with *armchair quarterbacks* who criticize exercises that they have either never performed, or are simply incapable of performing. Obviously, an overweight, unconditioned individual has no business performing intense exercises such as plyometrics. They are not physically prepared to handle the stress of these movements.

A successful training program must be tailored to your current abilities and goals. What works for one athlete, may not work (or make sense) for another athlete. Individual attention to each athlete is imperative. As a trainer, I have worked with young athletes, professional athletes, obese clients, and elderly clients. Obviously, the training regimen of each group is unique.

Whenever you begin working with an exercise, you must listen to **your body**. Listen to the feedback that you receive. If an exercise is causing structural pain, you must make an adjustment.

I have never been injured while exercising. This doesn't mean that everyone should go out and perform my exact routine however. I have been training for most of my life. If you are new to exercise, you are not expected to dive headfirst into the most advanced routine that you can find. Your body is not prepared for such intensity. The application of commonsense and logical training principles will ensure a rewarding, safe exercise experience.

Considering the world's obesity epidemic, there are much more pertinent issues than the so-called dangers of pushups and pull-ups.

One of my past customers effectively summarized this topic. Rudy Friederich, a retired U.S. Marshals Service Chief Inspector, has applied many of my training concepts to both his personal training, as well as the preparation of his clients, who often consist of real world operational warriors. As Rudy stated, the conditioning of these men is "potentially a life or death necessity, not just a luxury." Once you realize what these men are up against, the idea of a *dangerous activity* takes on a completely new meaning.

Please inform the *armchair quarterbacks* to focus on the real dangers of this world, as opposed to commenting (from the sidelines) on the exercise selection of advanced athletes.

Ross, how do you recommend warming up? What about stretching?

In recent years, I have changed my views related to this subject. I used to spend a considerable amount of time warming up prior to a training session. I have since cut back on the time spent warming up and have not experienced any negative changes to my performance. Many athletes spend too much time warming up. They expend all of their energy during the warm-up, and are left fatigued before the real workout begins.

Bodyweight exercise routines do not require lengthy warm-ups. When performing a strength workout, start with a few light sets. For example, suppose you are about to perform a strength workout that begins with one-arm chin-up progressions. Start the workout with some light work on the bar (ex. traditional set of pull-ups and chin-ups).

When performing a conditioning routine, start by breaking a sweat with some less intense exercise. For example, jog lightly prior to engaging in a full speed interval workout. Keep the warm-up brief.

As for stretching, I have changed my views on this topic as well. I no longer engage in separate stretching sessions. I am a firm believer that adequate flexibility can be achieved by simply training with exercises (ex. divebomber pushup) that require a full range of motion.

I used to spend a considerable amount of time stretching. Since dropping these stretching sessions, I have noticed no decrease in flexibility. My flexibility has actually improved. For example, simply training for the bridge-to-stand developed a tremendous amount of flexibility in my lower back. The flexibility gained from this exercise far exceeded the flexibility that I had gained from any past stretching sessions.

Ross, I've been working through the 50-day plan from the Infinite Intensity book. Should I switch over to the Never Gymless routine?

Do not limit yourself to either routine. The routines presented within each manual are samples. Use the ideas presented within the text to tailor a routine specific to your goals. Do not view the sample routines as your only option.

Ross, what should I do if I cannot perform some of the exercises from the sample workouts?

Once again, the routines are mere samples. Experimentation is required to determine which exercises fall within your current ability. Progressions are available for many exercises. For example, if you cannot perform pull-ups, switch over to assisted reps or body rows. Find a comparable exercise that you can perform.

Ross, what should I do if I cannot perform the prescribed number of repetitions listed in many of the conditioning workouts?

Tailor the workouts to your current level. For example, if 10 burpees are too difficult, reduce the set to 5 burpees. You can also increase the rest between exercises and circuits. Customize the program to comply with your current abilities. With regular practice, your work capacity will improve, enabling you to perform the workouts in their entirety.

Ross, I have no place to run. Can I replace the 400 meter intervals with another exercise?

Jumping rope is an excellent indoor replacement. Jump rope for 90 seconds at top speed as a substitute for the 400 meter intervals. Use a plastic speed rope to maintain as fast a pace as possible. You can purchase a quality speed rope at most sporting good stores for less than $10.

The **EIT Workout 3** from page 211 could be changed to:

- Jump rope x 90 seconds
- 20 Medicine Ball Slams
- Rest 60 seconds

Repeat 6 times

Ross, there are no finishers listed in the sample workouts. Should I not use a finisher?

Use finishers when necessary. If you finish a workout and still have plenty of energy, use a finisher to provide one last challenge. See page 172 for an example.

Ross, what are some equipment free alternatives to the Integrated Circuit Training routines?

The minute drills from page 220 are an ideal equipment-free substitute.

Ross, I have had joint problems in the past. Are there any alternatives for the plyometric pushup exercises?

Perform a chest press (bottom of page 124) with a strong resistance band. Band training is a safe and effective method for explosive strength development.

For an added benefit, you can start with an isometric press to exploit the static-dynamic protocol. Continue with the band press immediately after the isometric exercise.

Ross, are there any substitutes for clap pull-ups?

Perform an ***explosive*** pulling exercise with bands. Two examples include high pulls and the one-arm band pull (both illustrated on page 55).

Ross, are there any alternatives to the medicine ball slam?

The band slam from page 135 is an ideal replacement.

Ross, the minute drills on page 220 are too difficult. How can I adjust the drills?

Reduce the time for each exercise from 30 seconds to 20 seconds. This will convert the three-minute drill to a two-minute drill. If this is still too difficult, cut the time down to 15 seconds per exercise.

Ross, I enjoy weight training. How can I apply this book to my current routine?

Do not focus on equipment. Focus on specific objectives. The tools that you choose are simply a means to an end. If you prefer free weights for strength training, you should at least use bodyweight exercise for conditioning and core training. Do not limit yourself to free weights. Always look to incorporate variety.

Ross, I am very sore after trying the sample workouts. What can I do to assist with soreness?

Soreness is simply a reaction to a foreign stimulus. If the exercises from the sample routines are new to you, soreness is a common byproduct. You can expect soreness for the first few weeks. Ease into the program to allow the body time to adjust and adapt.

Adequate sleep and nutrition are also important. Without proper rest and nutrition, you will be unable to recover from the intensity of these workouts.

Ross, how long can I continue this program without burning out?

The ideas from this program can be applied indefinitely. There are no time limits. If you feel run down, listen to your body and make adjustments. The body is the ultimate feedback mechanism. Listen to the free advice that your body offers each day. Make changes when necessary. Continue to incorporate variety, make time for back-off weeks, follow a proper nutritional plan, and strive for plenty of sleep each night.

Can I gain mass with bodyweight exercise?

As mentioned throughout, resistance is resistance, whether it comes from iron or your natural bodyweight. If you wish to gain mass, work with a moderate repetition range. If your rep range is too low, there will not be enough volume to promote mass gains. If your rep range is too high, there will not be enough resistance.

You should also limit aerobic training, as aerobic work will impede both strength and mass objectives. Focus your conditioning work around brief, yet intense sessions. These shorter sessions will spare muscle mass, while still offering fat loss benefits.

Furthermore, you must increase food intake. Stick with the natural foods referenced in the nutrition chapter. Do not rush the process however. If you rush your mass gaining initiatives, you will gain more fat than muscle. Legitimate mass gains take time and hard work.

Lastly, I caution you against focusing all of your energy towards gaining mass. In many cases, added mass will **not** contribute to improved performance. Mass gains may even hinder certain qualities such as endurance and speed strength.

Ross, I am training for a fight. How can I apply the sample routines to my pre-fight preparations?

Your ability to perform the sample routines will depend on your work capacity. Many experienced fighters train twice a day without any problems. These individuals possess incredible work capacity, so can train frequently, while still possessing the ability to recover quickly between sessions.

When constructing a pre-fight training routine, start by determining your skill training objectives. As a fighter, skills pay the bills. Any additions to your routine (ex. conditioning drills), must work around your skill training and sparring schedule. For example, it would not make sense to perform an Integrated Circuit Training routine before a sparring session.

It would make more sense to perform these conditioning routines on a non-sparring day (or after a sparring session). Sit down with your coach to determine a plan that will jive with your skill workouts. By adding a few bits and pieces to your current routine, you can make considerable improvements. For example, you can certainly find time for at least two conditioning workouts per week (EIT or ICT workouts). Many of these workouts will require less than 20-minutes of your time. If necessary, you can replace 400 meter intervals with an indoor alternative such as jumping rope. The sample on the bottom of page 226 makes for an ideal conditioning circuit that you can perform at the gym (ex. after a skill session). This small addition will offer considerable benefits.

You can also find time for one or two strength workouts. The sample workouts from this manual are brief and effective. You do not need much time to complete the workouts.

When adding new *ingredients* to your *training recipe,* start with small changes. Do not revise your entire plan all at once. The body needs time to adjust to a new training system. As your work capacity improves, you will recover much faster, which will enable you to include more intensity throughout the week.

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EXERCISE LIST

Pulling Exercises	Page
Chin-up	36
Pull-up	36
Band assisted pull-ups	37
Close grip pull-up	38
Wide grip pull-up	38
Towel Pull-ups	39
Fat bar pull-ups	39
Rope pull-ups	40
Weighted pull-up options	41
Clap pull-up	42
Alternating grip pull-ups	43
Pull-up bar muscle-up	45
Ring muscle-up	46
Rope climbing	47-48
Jump, catch, and pull	49
Side-to-side pull-up	51
One-arm emphasis chin-up	51
One-arm chin-up progressions	52
One-arm chin-up	53
Band high pull	55
One-arm band pull	55
Body row	56
Pushing Exercises	**Page**
Pushup	58
Diamond pushup	59
Ball pushup	59
Pushup between 3 blocks	59
Band pushup	60
Arms extended pushup	61
Fingertip pushup	61
Knuckle pushup	61
Divebomber pushup	62
Close grip divebomber	63
Ball divebomber	63
Divebomber from blocks	64
One-arm pushup	65
Assisted one-arm pushup	65
Elevated feet one-arm pushup	66
One-arm pushup from ball	66
One-arm pushup from one foot	67
Extended one-arm pushup	67
Fingertip one-arm pushup	68
Knuckle one-arm pushup	68
Ring pushups	69
One-arm ring pushups	69

Pushing Exercises (continued)	Page
One-arm divebomber	70
Bodyweight triceps extension	71
Dips	72
Bench dip	72
Band triceps extension	73
Handstand pushups	73-74
Pike press	76
Overhead band press	77
Plyometric pushups	79
Power overs	79
Depth plyometric pushups	80-82
Front-to-back clap pushup	83
Triple handclap pushup	84
One-arm plyometric pushup	85
Full body plyometric pushup	86
Band chest press	124
Lower Body Exercises	**Page**
Bodyweight squats	91
Medicine ball squat	95
Wall squat	96
Resistance band squat	96
One-legged squat	97-99
Lunge	100
Car pushing	101
Glute-ham raise	102
Hamstring curl (band)	103
Band good morning	103
Hamstring curl (modified)	104
Calf raises	104
Lateral jumps	105
Explosive step-ups	106
Knee tucks	106
Squat jump	107
Ankle hop	107
Long jump	108
Lunge jump	108
Isometric Exercises	**Page**
Wall press	120
Overhead press	120
Leg press	121
Leg curl	121
Hamstring curl	121
Isometric punches	122
Neck exercises	123
Bent over row	123

Isometric Exercises (continued)	Page
Towel pull	124
Band overload press	124
Chest press	125
Triceps extension	125
Curl	125
Snatch	125
Overhead press	125
Deadlift	125
Core Exercises	**Page**
Crunch	128
Chinnies	129
Lying Hip Swing	129
Plank	129
V-up	130
Superman	130
Russian twist	132
Side crunch	133
Side bend	133
Band twist	134
Rotational chop	134
Band slam	135
Band pull through	136
Band punches	137-138
Kneeling Wheel Rollout	139
Standing Wheel Rollout	140
One-arm wheel progressions	143
L-rollout	144
T-rollout	145
Wheel assisted one-arm rollout	145-146
One-arm rollout	146
L-sit	147
Flag	148
Wall walking	149
Bridge (from the hands)	150
Backbend	150
Bridge-to-stand	151
Neck Bridge	152
Conditioning Exercises	**Page**
Sprints	159
Band sprints	160
Bear crawl	161
Crab walk	161
Medicine ball slam	162
Medicine ball woodchopper	162
Burpee	163
Squat thrust	164
Mountain climber	165
Grasshoppers	165
Burp	166
Jumping jacks	167
Split jumps	168